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RETROSPECT AND PROSPECT: THE ECONOMIC SURVEY, 1954

The publication of this year's *Economic Survey* provides a convenient opportunity for reviewing recent economic changes, and the evolution of the Government's economic policies. The task of analysing recent events is made easier, and statistically less hazardous, by the new data concerning national income and expenditure which are given in the *Survey* (Cmd. 9108) and in the official *Preliminary Estimates* (Cmd. 9118). The justification for considering some more general questions of economic policy can be found not merely in the appearance of a new *Survey* and another Budget, but in the fact that the British economy has entered into a new phase.

The most striking illustration of this fact is the Budget itself. For once, a Chancellor of the Exchequer has not been virtually compelled by the force of economic events to introduce changes in taxation—a novel and remarkable state of affairs. This can be explained, though only superficially, of course, in a very simple way. By the end of 1953 the ' transition period ' had come to an end: economic changes, and the problems raised by them, could no longer be directly traced to the after-effects of war—the Second World War, or the war in Korea. All the main economic difficulties which British Governments have had to contend with since 1945—inflationary pressure, shortage of foreign exchange, supply problems and bottlenecks at home, rising prices, big increases in military expenditure, fluctuations in the terms of trade, even the recession of 1951-52—were the legacies or consequences of war.[1] By last year, however, the more obvious effects of the two wars had worked themselves out, while no new disturbing factors of remotely comparable importance had appeared. As a result of this, no new adjustments or expedients were unavoidably needed. The economy had been able to settle down.[2]

This new situation could very soon be altered by further wars or rumours of war, or by a serious American recession; but so far this year nothing has happened to upset it. Because of this comparative freedom from urgent short-term problems, it is easier to look ahead, and to consider some more permanent ones—in particular, the problem of achieving a high rate of

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[1] This is not meant to imply that none of these difficulties could have been avoided, nor that the measures which were adopted in dealing with them were the only possible ones.

[2] An obvious indication of this is the extent to which it has been found possible to dispense with direct controls.

TABLE I

Gross Domestic Product at 1952 Prices

(£ million at annual rates, seasonally corrected)

	1952				*1952*	*1953*				*1953*	*1954*
	I	*II*	*III*	*IV*	*Year*	*I*	*II*	*III*	*IV*	*Year*	*I*
Mining and Quarrying	495	500	495	505	500	500	495	500	505	500	510
Manufacturing	4,990	4,845	4,695	4,910	4,860	4,995	5,150	5,190	5,365	5,175	5,350
Building and Contracting ...	880	890	880	890	885	920	935	945	960	940	(950)
Gas, Water and electricity ...	295	290	295	320	300	305	310	315	315	310	325
Other Sectors	6,950	6,945	6,950	7,005	6,965	7,015	7,070	7,095	7,160	7,085	7,165
Total	13,610	13,470	13,315	13,630	13,510	13,735	13,960	14,045	14,305	14,010	14,300

TABLE II

Gross Domestic Expenditure at 1952 Prices

(£ million at annual rates, seasonally corrected)

	1952				*1952*	*1953*				*1953*	*1954*
	I	*II*	*III*	*IV*	*Year*	*I*	*II*	*III*	*IV*	*Year*	*I*
Personal Consumption	10,335	10,315	10,430	10,535	10,403	10,625	10,825	10,825	10,980	10,815	10,900
Exports	3,775	3,675	3,265	3,365	3,522	3,430	3,340	3,660	3,630	3,515	3,700
Imports	—3,820	—3,435	—3,260	—3,505	—3,504	—3,690	—3,800	—3,850	—3,995	—3,835	—3,850
Gov. Expenditure ...	2,825	2,880	2,920	2,955	2,895	2,980	3,000	3,015	3,030	3,005	3,045
Gross Domestic Capital Formation :											
(*a*) Fixed Capital	(2,375)	(1,895)	(1,810)	(2,180)	2,060	(2,290)	(2,525)	(2,330)	(2,635)	2,275	(2,480)
(*b*) Stocks ...					—					(165)	
Total	15,490	15,330	15,165	15,520	15,376	15,635	15,890	15,980	16,280	15,940	16,275

economic growth. Moreover, even if a new series of economic crises is not far over the horizon, it is of some historical significance that the old ones are over. It is therefore an appropriate time to ask whether any conclusions can be drawn, from recent experience, about the working of the British economy. This is worth doing for its own sake, and also because it may throw some light on the long-run problems; it is not easy to fix the boundary between strategy and tactics.

This paper is divided into three sections. The first is concerned with the recent past—the subject-matter of Part I of the *Survey*; the second with the immediate prospects, which are analysed in Part II of the *Survey*; and the third with some more general issues, which the *Survey* scarcely considers at all. No attempt has been made to treat these topics comprehensively. It would be pointless to reproduce what is already available in the *Survey*; and the questions raised in the last section could easily supply the pretext for a whole series of papers. The first two sections may be regarded as variations on the theme of the *Survey*, and the last as an extended *coda*. A number of estimates are presented in the text, but they are neither explained nor justified there; for those whose interest or suspicions they arouse, details are given in an Appendix of the methods and sources which have been used in preparing them.

(1) Recent Economic Changes

(*a*) *Introductory*

Tables I and II present estimates of changes in the main components of national output and expenditure for each quarter of 1952 and 1953. There are two obvious advantages of setting out changes in this way. First, it helps to give a clearer picture of the course of economic developments; comparisons between one year and the next may obscure the sense of continuity, and give a rather misleading impression when there have been important changes in the economic situation within the years concerned. It is of course possible to analyse short-run changes quite satisfactorily with the help of the data given in the *Monthly Digest*—in particular, trade statistics, the production index, and the estimates of personal consumption expenditure. But it is useful to fit together these different items of information, in order to form some impression of the changes that are taking place over the economy as a whole; and this is most conveniently done by constructing simple national income accounts.[1] Second, it is of some help in assessing the immediate economic prospects: for example, the analysis in Part II of the *Survey* is best considered in relation to the situation at the end of 1953, rather than the year as a whole.

These advantages, however, can be obtained only at the cost of some loss in accuracy, and of introducing serious difficulties of interpretation. The first of these drawbacks is obvious: it is explained by the fact that there is relatively little information available concerning short-period changes; and the result is that the estimates presented here—particularly those which have had to be derived as residuals—must be treated with caution.[1] The second is quite distinct, and would exist even if the error-margin of every figure were negligible. In all economic analysis of this kind, which makes use of income and expenditure data, there is the danger of arriving at false or misleading explanations of what has occurred by mistaking accounting relationships for causal ones[2]; and this danger is greater when the data relate to comparatively short periods. For instance, if a comparison is being made between one *year* and another, it is often reasonable to regard any change in output which may have occurred as having been the direct result of the (statistically observed) changes in the different components of final demand.[3] Even with annual data, however, such a procedure may lead to misinterpretation of the statistical evidence, especially in assessing the significance of changes in such items as stocks or personal savings; it is clear that with quarterly data the risk of making unjustified causal inferences may be very serious.[4] It would be less serious if more information were available about the time-lags between different economic decisions and their effects. As it is, a certain amount of guesswork is necessary. In analysing changes from one quarter to another, a rough distinction must be made between those changes which can be regarded as causally significant and those which seem to be fortuitous and temporary; and this is inevitably a matter of judgment. The only excuses for this proceeding are (i) that there is no practicable alternative, and (ii) that even if some allowance could be made for time-lags, this might well make little difference to the picture.

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[1] It would be more satisfactory to set out the data in the form of a two-way (input-output) table, as in Table 13 of the 1953 Blue Book, but with the statistical information which is at present available the error-margins involved would be too great.

It is clear from Table I that, as in earlier years, the changes in real output that have occurred have been very largely attributable to variations in the output of the manufacturing section. These in turn were largely—though not entirely—the result of the changes which took place in the amount and composition of final demand. From Table II it can be seen that in the case of some items these changes have been quite violent. This is especially true of the period of recession and recovery in 1952, and it is therefore convenient to consider that year separately.

(*b*) *Changes in output and expenditure*

It can be inferred from Table II that the components of final demand which fluctuated most during 1952, and which may therefore be regarded as having induced both the recession and the recovery of that year, are personal consumption, imports and exports, and investment in stocks. It is not at once apparent that this particular form of investment should be singled out, since in the table the residual item within each quarter comprises *all* investment; but it seems clear that changes in fixed investment from one quarter to the next are not likely to have been of much quantitative importance. With the help of information given in the *Survey*, and other data such as the figures for the value of new building work, it is possible to make *exceedingly rough* estimates of the changes in fixed investment over the year, and so to derive as a residual[1] a figure for changes in stocks. The result of this exercise is shown below:

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[1] There are two distinct sources of error: the indicators used may be defective, and so give misleading results ; and the estimated seasonal correction factors may be wide of the mark.

[2] *Vide* the warning given by Professor Pigou, in *Alfred Marshall and Current Thought* (pp. 84–5).

[3] This is of course done in the *Survey*, in the very interesting section headed ' The Impact of Demand on Production '—though it is pointed out (para. 47) that ' not all of these (changes in production) are primarily attributable to changes in demand '. Cf. also the analysis presented in Chapter 2 of the *Economic Survey of Europe in 1953*, published by the Economic Commission for Europe.

[4] To give an example, personal consumption expenditure in any one quarter is in effect regarded as both dependent on total output in that quarter, and as one of its determinants.

Investment by quarters in 1952

(£m.. annual rates, seasonally corrected)

	I	II	III	IV
Fixed investment	2,035	2,020	2,050	2,135
Value of Increase in Stocks	(340)	(—125)	(—240)	(45)
Total Investment	2,375	1,895	1,810	2,180

It would be absurd to place much reliance on this result, but it seems very likely that the general impression which it gives is realistic enough. The main explanation of these swings in the rate of stockbuilding is clearly to be found in the behaviour of imports; and in so far as this is true, they have little causal significance. The same argument may be put in another way. The improvement in the balance of payments which occurred after the first quarter of the year, in so far as it was due to the fall in the volume of imports, cannot have had much effect on output. Since it was not the result of a shift in demand from imported to home-produced goods, its chief effect was to bring about a compensating fall in stocks. This means that in explaining the fluctuations in output, the critical variables are consumption, exports, and those changes in stocks which were not merely the reflection of changes in the volume of imports or of unforeseen changes in demand.[2]

The changes in personal consumption are at first sight rather surprising. Why was it that in spite of the fact that output was falling until late in the year, consumption in real terms, after allowing for seasonal variations, seems to have been much the same in the second quarter as in the first, and actually to have been higher in the third ? In order to account for this, it is necessary to look at the figures of consumption in more detail. From Table III it can be seen that, after price changes have been allowed for, most forms of consumers' expenditure apparently remained very stable over the year; the only exceptions were clothing and household goods. Both the general stability and these exceptions to it require some explanation.

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[1] In fact, it is a residual of a residual!

[2] This is of course an over-simplification, since the fall in imports must have had *some* effect on the demand for home-produced goods. If severe import restrictions are imposed, this is likely to cause some diversion of demand to home-produced substitutes, and also (perhaps at a rather later stage) to affect the volume of exports.

TABLE III

Personal Consumption Expenditure at 1952 Prices
(£ million at annual rates, seasonally corrected)

	1952				1953				1954
	I	*II*	*III*	*IV*	*I*	*II*	*III*	*IV*	*I*
Food	3,230	3,235	3,240	3,240	3,370	3,400	3,380	3,380	3,420
Beer	560	565	565	565	560	580	550	585	520
Other Alcohol	290	275	290	295	285	295	305	310	290
Tobacco	830	810	815	825	815	830	845	850	825
Rent, Rates and Water	730	735	740	740	745	745	750	760	760
Fuel and Light	430	430	435	435	440	435	445	435	460
Household Goods	710	680	720	750	760	805	835	835	790
Footwear	180	180	180	185	180	185	185	190	185
Other Clothing	780	830	860	870	830	855	855	880	845
Travel	415	410	415	420	425	425	425	440	430
Entertainment	195	180	190	180	175	180	175	185	175
Other goods and services	1,985	1,985	1,980	2,020	2,040	2,090	2,075	2,130	2,200
Total	10,335	10,315	10,430	10,535	10,625	10,825	10,825	10,980	10,900

TABLE IV

Balance of Payments at Current Prices, not *seasonally corrected*
(£ million at annual rates)

	1952				1953				1954
	I	*II*	*III*	*IV*	*I*	*II*	*III*	*IV*	*I*
Visible Imports	3,370	3,090	2,570	2,745	2,830	3,030	2,750	2,880	2,770
Other Imports	1,005	940	940	1,025	870	855	910	990	855
Total Payments	4,375	4,030	3,510	3,770	3,700	3,885	3,660	3,870	3,625
Visible Exports	3,030	3,090	2,515	2,670	2,645	2,625	2,650	2,780	2,700
Other Exports	1,295	1,210	1,210	1,200	1,185	1,185	1,270	1,270	1,310
Total Receipts	4,325	4,300	3,725	3,870	3,830	3,810	3,920	4,050	4,010
Surplus (+) or Deficit (—) on Current Account	—50	+270	+215	+100	+130	—75	+260	+180	+385
U.S. Defence Aid	—	+230	+150	+105	+140	+80	+115	+ 75	+ 80
Surplus including Defence Aid	—50	+500	+365	+205	+270	+ 5	+375	+255	+465

TABLE V

Balance of Payments at Current Prices, seasonally corrected
(£ million at annual rates)

	1952				1953				1954
	I	*II*	*III*	*IV*	*I*	*II*	*III*	*IV*	*I*
Visible Imports	3,395	2,935	2,670	2,770	2,850	2,880	2,850	2,905	2,800
Other Imports	1,055	990	940	920	925	910	905	890	905
Total Payments	4,450	3,925	3,610	3,690	3,775	3,790	3,755	3,795	3,705
Visible Exports	3,080	3,020	2,590	2,615	2,690	2,570	2,720	2,720	2,755
Other Exports	1,300	1,215	1,195	1,200	1,185	1,190	1,260	1,275	1,315
Total Receipts	4,380	4,235	3,785	3,815	3,875	3,760	3,980	3,995	4,070
Surplus (+) or Deficit (—) on Current Account	—70	+310	+175	+125	+100	—30	+225	+200	+365
U.S. Defence Aid	—	+230	+150	+105	+140	+80	+115	+ 75	+ 80
Surplus including Defence Aid	—70	+540	+325	+230	+240	+50	+340	+275	+445

The fact that total consumption was maintained, and even increased, can be easily explained; two obvious reasons suggest themselves. The first is that the fall in total output in the second and third quarters is unlikely to have caused a corresponding fall in personal income. It might be expected that the main immediate effect of such a fall in demand on the industries concerned would be a more than proportionate fall in undistributed profits, while other forms of income earned within the industries would fall less sharply. In this instance, the expectation seems to be confirmed by the fact that employment was fairly well maintained in spite of the recession, while there were apparently no reductions in *rates* of wages and salaries. Moreover, *outside* the industries immediately affected, wages, salaries and dividends must have continued to rise. In view of the substantial increases in all these forms of income which took place between 1951 and 1952, and since the loss in earnings which resulted from the fall in output cannot have been great, it seems likely that throughout 1952 the total of personal incomes continued to rise.

The second reason is that after the middle of the year the cost of living became fairly stable, since increases in unit factor cost were offset, over the economy as a whole, by the effects of the fall in import prices. The coincidence of rising disposable incomes and stable prices made possible an increase in consumption between the second and third quarters of the year, in spite of the fact that total output was lower because of the fall in exports. This increase in turn helped to maintain output, and hence personal incomes. By the end of the year, the rise in disposable income was apparently large enough to permit not only a recovery in personal consumption to the level reached in 1951, but also an appreciably higher rate of saving.[1]

Within the total of personal expenditure, the items which varied most were clothing (other than footwear) and household goods. The rise in clothing expenditure may be explained as a return to more normal levels of buying following the sharp fall which took place after the early months of 1951. As the year went on, consumers' stocks must have become increasingly in need of replenishment, and there was less reason to postpone purchases in the hope that prices would continue to fall. The rise in incomes made possible a recovery in this form of spending without any corresponding reduction in other forms—or, apparently, in personal savings. Much the same was probably true of household goods, although it is unwise to generalise about so varied a collection of commodities. This is a category of expenditure which might be expected to be sensitive to quite small changes in real income, and this may be part of the explanation of both the fall and the subsequent recovery in spending.[2]

[1] To judge from Table 2 of Cmd. 9118. Admittedly the estimates of personal savings are very shaky, but it is hard to believe that no increase took place between the two years.

[2] This category includes some textiles—furnishing fabrics, for instance—and the demand for these may well have moved in the same way as the demand for clothing. In so far as this occurred, the fall in the demand for other items in the first part of the year must have been greater than the total. Figures for sales of household appliances, etc., suggest that this was so; for some of these, the fall in demand at this time was quite inexplicably large. The restrictions on hire-purchase imposed at the time of the Budget may have had something to do with this.

Higher expenditure on clothing soon led to a recovery in the output of the clothing industries, which seems to have reached its nadir before the end of 1951; but the recovery of textile production was delayed for several months.[1] This must have been due partly to the fact that exports of textiles continued to fall, and partly to a further reduction in stocks.

It can be seen that to speak of ' the 1952 recession ' is in a way misleading: there *was* a recession, but it had two distinct causes—a fall in consumption, and a fall in the demand for exports; and since these did not coincide, it is convenient to distinguish two distinct phases. In the first, which began in 1951, there was a marked fall in certain forms of consumers' expenditure, unaccompanied by compensating increases—and therefore, in all probability, there was also a rise in the ratio of personal savings to disposable income.[2] This, together with the simultaneous fall in exports of textiles, brought to an end the rise in industrial output. Up to the first quarter of 1952, however, there was probably no *fall* in output, not only because of the steady rise in government orders for defence, but also because exports (apart from textiles) remained high. The mid-year recession was largely the result of a more general fall in exports, which was particularly marked between the second and third quarters; but it was aggravated by deliberate reductions in the stocks held by the home customers of the textile industries. By this time, however, consumption had begun to rise once again, not at the expense of personal savings, but largely because of the fall in import prices. In the fourth quarter consumption rose once more, for much the same reasons; exports apparently recovered a little; the need for further reductions in stocks of textiles and clothing had passed; and fixed investment (at any rate in building) and government expenditure rose. The recovery was well under way.

It may be added, by way of a postscript to this account, that there is little to indicate that ' disinflationary ' measures had much effect on the course of events. Personal expenditure on durable goods was probably affected by the restrictions on hire-purchase sales, and the withdrawal of the initial allowances no doubt had some influence on investment decisions. It seems reasonable to infer, however, from the data concerning changes in consumption and industrial investment, that the quantitative importance of these effects was quite small. It is sometimes argued that monetary policy played a significant part in holding down expenditure, mainly by causing stocks to be reduced; but there seems to be little positive evidence of this. No doubt the more restrictive credit policy must have caused embarrassment to some manufacturers and traders, especially in the textile and clothing trades, where in any case their financial position at the time was unenviable. In these particular trades, however, there was in any case a very strong motive for postponing purchases and running down stocks—namely, the expectation that raw material prices would continue to fall.[3] It can of course be argued that things *might* have been very different if the ' new monetary policy ' had never been adopted; but it is possible to account for all the significant changes in output and expenditure without introducing it as an explanatory factor.

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[1] Cf. Table VI.

[2] The fact that in the first half of 1951 the volume of consumption continued to rise, when the prices of consumers' goods were rising steeply, suggests that in this period personal savings were appreciably lower than in the second half of the year.

[3] Cf. the *Survey* for 1953 (para. 55).

The justification for analysing events in 1952 at such length is that from this point of view it was an interesting and complex year. By comparison, the more recent changes in output and expenditure require little comment or explanation.

Perhaps the most obvious contrast between 1952 and 1953 is to be seen in the behaviour of personal consumption. In 1952, changes in the propensity to consume, and changes in the composition of personal expenditure associated with these, were of some causal significance; last year such changes seem to have been relatively unimportant. The impression given by the data is that the propensity to consume remained fairly stable. The increases in total consumption which occurred can be explained by the rise in output, the tax-reliefs given in the 1953 Budget, and the further fall in import prices. Of course these increases themselves contributed to the recovery of output; but the causally significant factors were the increase in government expenditure and in housebuilding, and (in the second half of the year) the recovery in exports. These ' autonomous ' changes in demand were responsible for the increase in output, and hence in personal incomes, which made the rise in consumers' expenditure possible; and the tax-reliefs gave an additional stimulus. Thus the part played by consumers in the growth of demand and production was a relatively passive one.

The detailed estimates of changes in consumption reflect the virtual disappearance of the last post-war shortages. The impression given by the estimates in Table III is that the rise in personal incomes enabled households to increase their expenditure on items which had previously been scarce—in particular, food and motor cars—and also on household goods (mainly television sets), without reducing their purchases of other goods. If this interpretation is correct, it is reasonable to expect that the pattern of consumers' demand will remain fairly stable for a while—at any rate while stocks of cars and television sets are still being built up—provided that there is no serious recession, and no sharp changes in import prices occur. The fact that personal savings apparently continued to rise (assuming that the official estimates are not too far out) is rather puzzling, given that a fairly high proportion of expenditure is on durable goods, and most of this cannot properly be regarded as current expenditure, although it is treated as such in the official estimates. Perhaps the most likely explanation is that personal savings have returned to a more normal level now that liquid balances built up during and immediately after the war have been spent.

The changes in investment expenditure during the course of 1953, as shown in Table II, suggest that there were quite sharp changes from one quarter to another in the rate of additions to stocks, with large additions in the second and fourth quarters of the year, and only small net increases in the first and third. It is doubtful, however, whether much significance can be attached to these changes, given the error-margin of the estimates, though they can be partly accounted for by changes in the volume of imports.

By the end of 1953 industrial output as a whole had reached a record level, but although almost all industries shared to the same extent in this expansion, there was (as the *Survey* makes admirably clear) a very wide dispersion in the changes which took place. To analyse the course of industrial output satisfactorily requires more information than is at present easily available[1]; but it is of some interest to survey broadly the changes which have taken place, over the last few years, in the manufacturing sector.

(*c*) *Output and employment in manufacturing industry*

The changes which took place over the last four years in the output of different groups of manufacturing industries are set out in Table VI. The purpose of going back to 1950 is to throw some light on the question of whether, and to what extent, industrial productivity has risen, and what factors may have affected productivity; comparisons between 1952 and 1953 are not very helpful in this respect. It can be seen that in almost every sector output reached a peak some time during 1951; about the middle of that year, for various reasons, the expansion was temporarily halted, and for some time afterwards the economy was obviously not working to capacity. By the end of 1953, however, full employment had been restored, and in many industries there was once again an actual shortage of labour. In any attempt to assess changes in productivity, and the rate of *potential* growth of the economic system, the relevant comparison is between these two peaks of activity and employment. It is not possible to draw firm conclusions from such crude and fragmentary data; but even tentative conclusions may be of some value.

The first stage in drawing up any comparison is to make some allowance for changes in employment; and this is done, for the years 1951–53, in Table VII, which presents estimates of changes in output per employee. As indicators of changes in productivity these series are of course hopelessly inadequate. In the first place, they are subject to errors which may arise from the use of unsatisfactory indicators in the construction of the Index of Production, and from the seasonal correction factors used. Second—and more important—no adequate allowance can be made for changes in the average number of hours worked in each period. It is well known that changes in demand during the past two years have been met partly by changes in the length of the working week and underemployment, and if such changes were taken into account the series which show particularly sharp fluctutations would be very

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[1] It is a great pity that so few of the individual series which go to make up the Index of Production are published separately, and it would also be of great interest if those responsibe for compiling the index—who are after all best qualified to assess the adequacy of the indicators which they use—were allowed to comment in more detail on the changes in different series.

TABLE VI

Production in Manufacturing Industry, 1950–1953 (1948=100) (Seasonally corrected, four-monthly periods)

		Non-Metalliferous Mining Manufactures	Chemicals and Allied Trades	Metal Manufacture (ferrous)	Metal Manufacture (non-ferrous)	Engineering, Ship-building and Electrical Goods	Vehicles	Metal Goods, n.e.s.	Precision Instruments, Jewellery, etc.	Textiles	Leather, Leather Goods, and Fur	Clothing	Food	Drink and Tobacco	Manufactures of Wood and Cork	Paper and Printing	Other Manufacturing
1950	I	108	119	108	98	113	119	100	109	117	103	114	113	99	121	131	114
	II	113	125	109	103	116	120	105	110	120	102	113	112	98	120	138	116
	III	112	127	112	106	120	124	108	112	119	104	119	111	98	124	131	120
1951	I	114	129	112	115	123	122	113	119	121	104	121	109	98	132	134	126
	II	117	136	114	117	129	127	114	114	125	100	113	107	95	133	144	122
	III	118	136	112	116	129	124	112	106	110	87	98	109	105	118	141	114
1952	I	118	133	115	125	131	125	113	105	100	84	99	112	99	114	137	111
	II	114	129	117	118	125	122	112	97	87	83	103	114	98	114	108	106
	III	114	134	119	105	125	125	108	99	101	90	114	116	97	117	109	106
1953	I	117	146	122	97	131	133	104	101	112	94	112	119	96	118	122	110
	II	120	153	115	95	128	137	101	108	114	95	116	123	97	123	134	118
	III	123	155	123	104	132	143	105	116	116	97	115	126	100	133	143	121

Table VII

Production per Worker in Manufacturing Industry, 1951–53 (1951 = 100) (Seasonally corrected, four-monthly periods)

		Non-Metalliferous Mining Manufactures	*Chemicals and Allied Trades*	*Metal Manufacture (ferrous)*	*Metal Manufacture (non-ferrous)*	*Engineering, Shipbuilding and Electrical Goods*	*Vehicles*	*Metal Goods, n.e.s.*	*Precision Instruments, Jewellery, etc.*	*Textiles*	*Leather, Leather Goods, and Fur*	*Clothing*	*Food, Drink and Tobacco*	*Manufactures of Wood and Cork*	*Paper and Printing*	*Other Manufacturing*
1951	I ...	99	97	99	100	98	99	100	104	101	106	108	101	103	97	105
	II ...	101	102	102	102	103	102	102	100	105	103	102	98	104	103	101
	III ...	100	101	99	98	100	99	97	95	94	92	90	101	93	100	93
1952	I ...	101	97	102	104	100	98	99	95	89	94	94	101	92	98	95
	II ...	99	96	103	98	95	94	101	90	83	97	99	103	95	79	97
	III ...	100	100	104	88	95	96	98	92	95	100	108	102	95	81	98
1953	I ...	103	109	105	85	100	102	96	93	100	103	103	105	96	92	97
	II ...	104	113	102	84	98	104	94	98	101	104	107	106	98	99	98
	III ...	105	113	108	89	100	105	96	102	101	105	104	107	104	102	100

much smoother.[1] Moreover, if an estimate of changes in productivity could be made which took account not only of labour, but of *all* current inputs, this also would have the effect of smoothing the most irregular series, since there is no reason to suppose that changes in demand would have had much effect on the amount of materials used per unit of output. In spite of these deficiencies, however, such estimates as those in Table VII are of some interest, particularly when comparison is made between the situation in mid-1951 and that at the end of last year.

It is at once apparent that there is a very close correlation between the changes in output which have occurred since the 'peak' of 1951, and the changes in productivity over the same period. In each of the sectors where output is now appreciably higher—non-metalliferous mining manufactures, ferrous metals, chemicals, and the food manufacturing trades—output per worker has also increased. The rise in output has in each case been accompanied by some recruitment of labour to the industry, but employment has in general risen less than output. In the sectors in which output has approximately been restored to its previous peak, such as engineering, paper and printing, and manufactures of wood and cork, output per worker has also recovered to much the same level. Finally, in the sectors where output has not fully recovered, the output-employment ratio seems in general to be lower, and it has fallen most—e.g., in the manufacture of non-ferrous metals—where the fall in output has been greatest. How is this correlation to be interpreted?

At this level of analysis, not very much can be said on the problem; but even so, some useful distinctions can be made. The most important of these distinctions is between the sectors in which output has been determined pretty well entirely by changes in demand, and those in which it has clearly been affected by other factors as well. The first category probably comprises the textile and clothing trades, a fair section of the metal and engineering industries (apart from vehicles, ferrous metal products, and a number of other trades), non-metalliferous mining manufactures, manufactures of wood and cork, drink and tobacco, and other manufacturing. All these groups were affected to some extent by the recession (though some trades *within* them were not[2]), and in all of them output per employee seems to have varied in the same way as changes in demand. In most cases these short-period changes can be largely attributed to the reluctance of employers to dismiss workers outright when demand fell off, and they would no doubt be largely—though perhaps not entirely—eliminated if allowance were made for short-time working and underemployment. If one compares 1951 with 1953, it appears that little

[1] In the cotton industry, for example, the average number of hours worked, in the firms covered by the Ministry of Labour's earnings inquiries, were 42.4 in April, 1952; 46.9 in April, 1953; and 47.6 in October, 1953. The Ministry's inquiries into 'number of operatives on short-time or overtime' show that in May 1952, about 25 per cent of workers in the textile trades were on short time, and about 6 per cent were working overtime; in November 1953, the corresponding proportions were less than 1 per cent, and 15 per cent.

[2] In the case of non-metalliferous mining manufactures, for instance, the fall in output in 1952 is mainly accounted for by one component of the series, glass. Production of 'bricks, cement, etc.' was well maintained.

change has taken place in output per man, except in the case of non-metalliferous mining manufactures and some of the metal trades. In the former, the increase in demand resulting from the expansion of the house-building programme was successfully met without a proportionate rise in employment. In the latter, output per worker remained low; and since the working week does not seem to have been much affected by the fall in output, the explanation of this is rather obscure. It may be a reflection on the indicators in estimating changes in output,[1] or it may result from an unusually high proportion of 'overhead labour' in these trades. In the other and more important cases, such as textiles, the impression given by the data is that the productivity of labour is approximately back to its 1951 level, but is not higher. Since the working week is now more normal, and in some cases labour shortages have arisen, it seems unlikely that the figures for the end of 1953 are misleadingly low because of concealed underemployment; and if this is so, it could not be expected that a further increase in demand would have much effect in raising productivity.

The second category, in which variations in demand were in themselves of far less importance, comprises chemicals, ferrous metals[2], vehicles and some other engineering products, food manufactures, and paper and printing. Within this category, however, a further dichotomy has to be introduced. In some trades output was held back by the rate at which new capacity could be installed and brought into production. This seems to be true of pig iron, steel and most steel products, refined petroleum, and some other chemical products : and in all these instances it seems likely that between 1951 and 1953 substantial increases in productivity occurred. In the other sectors, the rise in output (or in the case of paper and printing, the recovery) was apparently achieved very largely because of a more adequate flow of raw materials. This applies in the case of paper and printing, motor vehicles, certain engineering products,[3] and probably to food processing. In most of these industries productivity also seems to have risen appreciably, but largely for reasons which make it unlikely that the rate of progress can be maintained, since there are now few serious shortages of materials and components.[4]

In summarising these changes, two questions may be posed. First, what conclusions are suggested about the rate of increase in productivity in manufacturing ? And second, is it likely that a further increase in demand could be met, with a corresponding rise in output per man, because at the end of last year there were still reserves of under-utilised labour and capacity ? Neither question can be answered, but some vague impressions can be formed.

[1] In the case of 'metal goods, not included elsewhere', these cover only 60 per cent of the industry, and some of them look rather dubious.

[2] Within this sector a distinction must be made, since the output of iron foundry products seems to have been largely determined by changes in demand.

[3] Cf. Table 26 of the *Survey*, and the comments in paragraph 124.

[4] One qualification must be made to this rather pessimistic judgment. The rise in output per worker in the vehicles sector is almost certainly under-stated, since for a substantial part of it—comprising mainly motor repairs and garages—employment is used as an indicator of production. Given the recent increase in motor traffic, this may well give misleadingly low results ; and in any case it means that the rise in output per worker in the other trades included within the sector must have been greater than in the sector as a whole.

On the first question, it is useful to begin by considering manufacturing industry as a whole during this period. Between June 1951 and the end of 1953 total employment in this sector increased by a little more than 2 per cent. Between the second quarter of 1951 and the last quarter of 1953 the production index for manufacturing, after allowing for seasonal factors, showed a rise of approximately 3 per cent. Of course this comparison is a very superficial one, and it cannot be taken very seriously as an indication of the trend—or absence of trend—in the efficiency of manufacturing industry as a whole. One's guess would be that the change in employment gives the upper limit of the increase in the input of labour services between the two periods, because of reductions in hours and longer holidays, while the production index may well have some downward bias, because of reliance on input or employment as indicators, changes in quality for which allowance cannot be made, and changes in the ratio of output to the quantity of materials used. Moreover, there have been increases in productivity outside manufacturing industry—notably, in the last year or so, in building. Lastly, it may be objected that this evidence cannot easily be reconciled with the detailed accounts, which are continually being published, of the introduction of new methods and techniques in British industry. An attentive reader of the *Times Review of Industry* might well regard these figures as evidence only of the worthlessness of the official Index of Production. Even when all such allowances and qualifications have been made, however, the impression left by this comparison, and by the more detailed comparisons for different sectors, is a disturbing one—especially when it is remembered that some of the recent increases in output per worker may well have been the result of factors which are no longer of much importance.[1]

There remains the possibility that this stagnation of output is the result of under-utilised labour and capacity, in the industries in which output is lower than it was in 1951. In so far as this is true, the comparison between changes in output and employment is misleading, and a revival of demand for the products of these industries would bring about substantial increases in output per man.[2] So far as one can judge, this is more likely to be true of the metal and engineering trades than the textiles and clothing industries.[3] There is some reason to believe that manufacturers have been willing to 'hoard' labour when confronted with falling demand[4]: and this is more likely to have occurred in engineering, where the fall has been less serious, and the long-run prospects are more hopeful. On the other hand, hoarding labour must be an expensive policy, and its prevalence may well have been exaggerated; and there are the figures of unemployment, unfilled vacancies, and overtime working, which suggest that by the end of last year there was not a great deal of under-employment.[1] Perhaps the most plausible view is that only the more depressed sections of the engineering industry could have produced more without increasing their labour force much; and this is consistent with the statement made in the *Survey*, that this year ' there will be reserves available in the capital goods industries to provide both for an expansion of exports and for a higher rate of industrial investment.'[2]

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[1] It may be added that the figures for the early months of this year provide no grounds for optimism, or for qualifying this judgment.

[2] This view was expressed in the course of the Budget debate by Mr. C. A. R. Crosland, who argued that there was probably 'some reserve of productivity increase in the system' which would make it possible to meet extra demands on the economy. (Cf. the *Weekly Hansard*, Vol. 285, Col. 465).

[3] Though it is possible that in some other sectors—e.g. paper and printing and food manufacturers, a larger input of materials could be successfully handled with the existing labour force and capacity.

[4] An interesting case—though it is not really germane to this discussion—is quoted in the *Manchester Guardian's* admirable *Survey of Industry, Trade and Finance.* A textile manufacturer is quoted as saying: 'We do not want to build new capacity to meet what may be a temporary boom—if it subsided we would risk bad labour relations, which we cannot afford.'

(2) The Present Outlook

> ' My right hon. friend [the Chancellor] will always try to give as much statistical information as he thinks will be of value . . . ' (The Economic Secretary to the Treasury, M. R. Maudling : quoted from the *Weekly Hansard* Vol. 285, c. 547).

Once again, the *Survey* has been exceedingly reticent about economic prospects, and the analysis in Part II is short and sketchy; there is little attempt to assess different possibilities in quantitative terms. It is possible, however, to do this very roughly, from the hints and tentative projections which are given in the *Survey*.

It is convenient to start with the prospects for output and expenditure in the United Kingdom. As a first approach, it is useful to draw up a hypothetical table corresponding to Table 8 of the *Survey*, and setting out prospective changes in ' real demand and supply ' between 1953 and 1954. In constructing such a table, the emphasis may be placed either on the supply side or on the demand side. In the first case, the problem is to estimate the potential output of the economy, on the assumption that (in some sense) its reserves of labour and capacity are fully utilised, and from this to consider what level of final demand, and of different components of final demand, can be supported. In the second, the problem is to estimate the changes in final demand which seem likely to occur, on the provisional assumption that fiscal policies remain unchanged, and to consider what changes in output are implied by these estimates. Earlier *Economic Surveys* were drawn up at a time when there was no risk of demand falling off, and the chief problem was to restrain some forms of expenditure so that the economy could respond successfully to increases in others. It was natural, therefore, to begin by considering what increases in output, and in the volume of imports, it would be reasonable to expect.[3] Now that the economic climate has changed, it is more natural to ask whether the prospective of demand is high enough to sustain the level of output which it is thought reasonable to try to achieve. However, the distinction between these two approaches is necessarily not very rigid, and there is something to be said for making use of both.

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[1] In February, 1954, about 25 per cent of the workers covered by the Ministry of Labour's inquiry into short-time and overtime—the returns relate to over 60 per cent of total employment—were working an average of 8 hours overtime per week. Less than 1 per cent of workers were on short time. It is hard to reconcile this evidence with the view that there are still appreciable ' hidden reserves ' of labour.

[2] Cf. para. 101.

[3] Cf. the *Economic Survey* for 1951, in which Chapter II, which comprised about one-third of the whole, was headed ' The Prospects for Output '. It should be added that during that period changes in the volume of imports were, to a much greater extent than now, the result of deliberate decisions by the authorities.

Some indication of the increase in output, which could reasonably be anticipated between 1953 and 1954, is provided by Table I. It can be seen that, according to the estimates presented there, the value of output in the last quarter of 1953, in 1952 prices, had reached an annual rate about £300 m. higher than that for 1953 as a whole. Even on the assumption that no further increases in productivity took place this year, and that the volume of imports did not increase between 1953 and 1954, it would be reasonable to allow for an increase in *potential* supplies of about this amount, which would make possible a corresponding proportionate increase in final demand. It is not reasonable, however, to assume the same volume of imports; some allowance must be made for changes in this.

Given existing restrictions on imports, their volume will clearly depend on the level and composition of output and —associated with this—the composition of final demand. Since the import requirements of different sectors vary, the volume of imports cannot be regarded, even from year to year, as a unique function of changes in *total* output; and the changes which occur in the output of different sectors will obviously depend on changes in final demand. Imports of final products will also be affected by this : it is probable that a given increase in personal consumption will be associated with a larger increase in imports of final products than would result from an equal rise in government current expenditure or fixed investment. Thus the changes on the demand side and the supply side are interdependent, even when only aggregate changes are being considered. Moreover, the change in the volume of imports will be affected by changes in the terms of trade; for such changes will necessarily affect the composition of final demand, and hence the propensity to import.[1] It is therefore impossible, in analysing this problem, to abstract from price changes; and in order to give a reasonably consistent estimate of import requirements it is necessary to take into account changes in final demand, as well as changes in potential output. This makes the problem exceedingly complex.[2] For our purposes, however, a very rough estimate will do : and the discussion in paragraph 91 of the *Survey* makes it possible to arrive at one.

The *Survey* estimates that a ‘ a rise of one point in the index of industrial production, if spread evenly, might in ordinary circumstances require an increase in consumption of imported fuel and materials of the order of £15–20 million a year at present prices.’ It can be deduced that to maintain output at its end-1953 level would require an increase in imports, at 1952 prices, of *very roughly* £60 million. As against this, there will be some substitution of home-produced goods for imports—mainly imports of steel and machinery,[1] and in addition to it, some allowance should probably be made for the imports of coal which have become necessary. Given that total output and demand were maintained, it would probably be reasonable to expect some increase in the volume, of food and feeding-stuffs *for current use*[2]: personal expenditure on food might well be higher, while the output of home agriculture is unlikely to rise. Finally, a small allowance should perhaps be made for the ' liberalisation ' of imports from Western Europe, though the *Survey* does not consider this worth mentioning, and it may well turn out to be unimportant. Taking all these factors into account, an increase in imports of £50 m., at 1952 prices, seems a fairly reasonable figure.

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[1] A rise in import prices will tend to cause some fall in personal consumption expenditure in relation to the volume of exports.

[2] Formally speaking it is necessary to solve a system of simultaneous equations—i.e., the important economic relationships which are involved—in each of which the parameters are only very approximately known.

By adding this to the increase in output in 1954 over last year, which would result from maintaining the end-1953 level of productions, a *minimum* figure can be arrived at for the potential increase in ' total supply ' at 1952 prices; and this cannot be much less than £350 m. It is a minimum, since no allowance is made for the possibility that productivity may rise over the year, either because of changes in technique and organization, or because a higher level of demand can at present be met in some industries without a proportionate increase in inputs. This possibility is obviously very difficult to allow for. Partly as an illustrative hypothesis, a rise of 1 per cent may be assumed in the index of production, between the last quarter of 1953 and 1954 as a whole. This would yield an increase in output of perhaps £80 m., allowing for a small rise outside the industrial sector, and would require a further increase in imports. The addition to total supply which would therefore result, even from such a modest and quite plausible change, would be about £100 m. It is therefore by no means unlikely that ' total supply ' this year could exceed that available last year by about £450 m., at 1952 prices, with an increase in production at home of £350–400m.[3]

In order for the potential increase in output to be realised, however, a corresponding rise in final demand is obviously required. In paragraphs 96–100, the *Survey* considers very briefly the changes which are thought likely to occur. It is convenient to begin with government current expenditure on goods and services, since this item can now be regarded as given more or less independently of the others, and can be estimated (since the change involved is relatively small) with reasonable accuracy. The *Survey* gives a figure of £75 m. for the increase, at 1952 prices, between 1953 and 1954.

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[1] To judge by the Trade Statistics for the first five months of this year, the reduction on account of these items may well come to about £50 million.

[2] As opposed to additions to stocks. The Survey suggests that the tendency of food imports to rise may be offset by reductions in stocks of imported foods and feeding stuffs, which were increased in 1953. However, in so far as changes in imports are associated with changes in stocks, the balance of total demand and total supply is unaffected.

[3] It should be added that the achievement of such an increase in these circumstances would be quite compatible with a very slow rate of increase in productivity, and a correspondingly pessimistic view of the performance of the British economy during the year. With any significant increases in productivity, the rise in potential output would be greater.

Second, there is investment in stocks, and in this case it is possible only to make a rough guess. The official estimate for the value of the physical increase in stocks in 1953 is £170 m., of which perhaps half came from home output.[1] The *Survey* suggests that no important changes in stocks are likely this year, since ‘ the stocks carried by industry and trade do not seem to have been built up to levels that are excessive in relation to present levels of activity.’[2] Perhaps the most reasonable working assumption is that with a higher level of output some increase in stocks of materials and goods in process would be needed. Taking into account only such *planned* increases in stocks, and leaving out changes in stocks which are met wholly from imports, and which are not for current use, this gives as a very rough figure for the reduction in the rate of stock building between 1953 and 1954 of £100.[3]

It may be useful at this stage to draw up a rough provisional table, with the prospective changes in total demand and supply so far as they have been derived, and taking the remaining components of final demand—personal consumption expenditure, fixed investment, and exports—together, as a residual. Two assumptions may be made, on the basis of the analysis made above, for illustrative purposes;

(i) that output cannot increase significantly above the level reached at the end of last year; and

(ii) that a small increase in productivity will occur, of less than 1 per cent for the economy as a whole, between 1953 and 1954. The result of this rather naïve exercise can be set out as follows :

Prospective Changes in Real Demand and Supplies between 1953 and 1954
(Preliminary ; in £ million at 1952 factor cost)

Supplies	*Assumption A*	*Assumption B*	*Demand*	*Assumption A*	*Assumption B*
Change in :			*Change in* :		
Gross domestic product	+300	+400	Government current expenditure	+75	+ 75
Imports for current use	+ 50	+ 75	Investment in stocks ...	—100	—100
			Consumers’ expenditure Gross fixed Investment Exports of goods and series	(+375)	(+500)
Total change in supplies	+350	+475	Total change in demand	+350	+475

It should be noted that ‘Assumption B ’ is not especially optimistic : the increase in productivity which it assumes is modest, and in fact it would be more reasonable to regard ‘Assumption A’ as being pessimistic. It can be seen that on this latter assumption, there would be room for an increase in the three remaining components of final demand of about £375 million, and this is approximately the increase which would have to occur if the

[1] Cf. the *Survey*, para. 45.

[2] Para. 96.

[3] The figure would of course be greater if imports not for current use were taken into account.

assumed increase in output were actually to be realized; on the second assumption the increase would be of the order of £500 m. It remains to consider, in the light of the *Survey's* rather laconic remarks on the subject, prospective changes in these last three items.

With the aid of Table II and some additional information, it is possible to make a rough estimate of the level of gross fixed investment in the last quarter of the year : expressed as an annual rate at 1952 prices, it was probably about £2,350–2,375m. This exceeds the total for 1953 as a whole by rather under £100 m. The *Survey* predicts that ' demand for fixed investment will probably show some increase in 1954 ',[1] mainly because of the ' rising trend ' in ' basic industries,' and an increase in building and contracting other than house-building. There is no way of arriving at any exact figure, but taking this information into account, and *not* (at this stage) allowing for the possible effects of the Budget, an increase of £150 m. over the 1953 level is perhaps a reasonable figure.

Exports present really serious difficulties, and it is not surprising that a good deal of Part II of the *Survey* is concerned with the U.S. recession and its possible consequences. The *Survey* proceeds on the assumption that the recession is unlikely to have any serious effect on exports, since it is not expected to be severe, and ' a moderate fall in activity in the United States could be prevented from having serious repercussions elsewhere.'[2] This assessment could still prove too optimistic, but so far it has been reasonably well borne out, and exports have been maintained. In any case, the most sensible procedure is that followed by the Survey, and in the Budget—namely to assume *provisionally* that the recession will not cause a serious fall in exports, and to take further action only if this assumption turns out to be mistaken. It is therefore convenient to adopt, for purposes of analysis, the *Survey's* assumption that the volume of exports in 1954 as a whole will be much the same as at the end of 1953. This implies an increase over the year 1953 of something in the region of £150 m.[3]

The prospective increases in fixed investment and in exports, without taking into account the effects of the initial allowances, thus come to about £300 m. On Assumption A, this leaves room only for a quite small increase in consumers' expenditure; on Assumption B, it would permit an increase of about £200 m. Now it appears from Table II that in the last quarter of 1953 consumers' expenditure exceeded the level for the year as a whole by about £160 m. It can be seen, therefore, that if there had been very good reasons for supposing that no increases in productivity would occur this year, the Chancellor might well have felt obliged to increase existing rates of taxation.

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[1] Para. 99.

[2] Para. 96. Earlier in Part II, some reference is made to the sterling area countries' plans for maintaining trade with each other in the face of a more serious recession ; but no information of the slightest interest is conveyed by the *Survey*, in the dreary and cliché-ridden paragraphs of page 39.

[3] It is a pity to accept this crude surmise without subjecting it to more detailed analysis, but an adequate discussion of the factors affecting the demand for exports would require another article.

However, before prospective changes in consumption can be analysed, a brief statistical digression is called for. The estimates presented in Table II are given at 1952 *market prices*, while in this analysis prospective changes are given at 1952 *factor cost*. For the other items entering into final demand, this is of no importance: it is quite legitimate to assume that it makes no difference whether increases are measured in market prices or at factor cost. In the case of consumers' expenditure this would be indefensible. An estimate must therefore be made of consumers' expenditure for the year 1953, and for the last quarter of that year, at 1952 factor cost. This can be done with the aid of the Blue Book, and the respective results are: £9,135 m., and £9,265 m. Thus if the difference between personal consumption expenditure in the last quarter of the year (expressed as an annual rate) and its level over the year as a whole, if measured at 1952 factor cost, comes to about £130 m. What increase can be anticipated for 1954?

It is useless to look ot the *Survey* for guidance: paragraph 97 is an insult to the reader's intelligence. For the purposes of this analysis, the problem is best considered in relation to the situation in the last quarter of 1953. Given that output in 1954 is expected—potentially at least—to be a little higher than it was in this period—and this assumption seems to be implicit in the Chancellor's policies—what increases in consumers' expenditure would it be reasonable to expect? In order to give even the most approximate answer, some assumption must be made about:

(i) the relation between changes in output and changes in personal incomes;
(ii) the propensity to consume of households; and
(iii) the change in import prices.

The impression given by the *Survey* and the Budget is that consumers' expenditure is unlikely to be effected very significantly by changes in any of these; and this seems a plausible assumption. One would normally expect increases in output to be associated with higher profit margins, but in present circumstances this expectation could easily not be realised, since the pressure for wage- and salary-increases is still great, and competition in foreign markets has increased. So long as no sharp changes in the price level are anticipated by consumers, there is no reason to expect any marked fluctuation in the ratio of personal expenditure to disposable income. And at present there seems little reason to think that changes in the terms of trade will affect consumers' expenditure significantly. Perhaps a reasonable guess would be that consumption in 1954 is expected to exceed its 1953 level, at 1952 factor cost, by something in the region of £175 m.

If we add this figure to those already derived for exports and for gross fixed investment, the total comes to something between £450 and £500 m. This suggests that in assessing the prospective increase in output, an assumption not very different from the second assumption made above was in fact made by the Chancellor and his advisers. For by making some addition to the estimated increase in gross fixed investment, to take account of the stimulus given by the new investment allowances, a projected increase in final demand would be derived, which is very close to the increase in supply yielded by 'Assumption B'. By fitting all these rather casual projections together, the following table can be derived:

Prospective Changes in Real Demand and Supplies between 1953 and 1954
(£ million, at 1952 factor cost)

Supplies		*Demand*	
Change in:		*Change in*:	
Gross Domestic Product	+400	Consumers' expenditure	+175
Imports for current use	+75	Public authorities' current expenditure	+ 75
		Gross fixed investment	+175
		Exports of goods and services	+150
		Investment in stocks for current use	—100
Total change in supplies	+475	Total change in demand	+475

If what may be called 'speculative' changes in stocks of imported goods were taken into account, the projected increase in imports would presumably be rather smaller, and the reduction in the rate of additions to stocks correspondingly larger; but the changes would necessarily cancel each other out.

It is obvious that no precision can be claimed for this result, which has been arrived at by the crudest guesswork; but the picture which it gives seems to be consistent with the analysis of the *Survey* and the arguments with which the Chancellor defended his Budget. If something very different had been expected, the Budget would have had to take a rather different form. Certainly this analysis fits in well with the Chancellor's argument, put forward in presenting the Budget, that

> 'production is likely to be higher this year than last, and I judge that it would be unwise at present to stimulate purchasing power by remissions of taxation designed to increase personal consumption.'[1]

So far as one can judge, economic developments this year have so far been quite consistent with the analysis and predictions which seem to underly the Budget. In particular, the provisional assumption, that the U.S. recession would not radically alter the situation, has so far been justified. The critical period, however, will be the third quarter of the year. During the summer the volume of exports from this country and still more from other sterling area countries, is low because of seasonal factors. If this seasonal fall should be associated with a further downward trend in the exports of other sterling area countries, brought about by the fall in American production, there will probably be some fall in the gold and dollar reserves.[2] The danger of this may be increased by a further rise in the imports of the other sterling area countries; for there is some indication that by the end of last year these were rising again from the low level to which they had fallen in 1952–53.[3] If the reserves began to fall for these reasons, the ' confidence ' in sterling, which was responsible for a large part of the recent increases in the reserves, would almost certainly evaporate at once. The main test of the sterling area's economic position has not yet come.

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[1] Quoted from the *Weekly Hansard*, Vol. 285, col. 218.

[2] Quite apart from the gold payments which will be made under the new E.P.U. Settlement.

[3] Cf. the *Board of Trade Journal*, June 19th, 1954, pp. 1318–19.

If the demand of the rest of the world for the main primary products of the sterling area is well maintained, the review of 1954 in next year's *Survey*, and in the next Budget speech, will no doubt give a very favourable impression. For this country, the figures will record higher output and a surplus—probably quite a substantial one—in the balance of payments on current account. The sterling area as a whole, provided that its imports do not rise too much over the next nine months, will have larger reserves. But even if all this is achieved, the situation may not be altogether reassuring. The figures may also give evidence of a serious and disquieting failure—the failure to achieve a high rate of expansion in the British economy.

(3) SOME PROBLEMS OF AN EXPANDING ECONOMY

'Our objective is expansion without inflation.' (The Chancellor of the Exchequer in his Budget speech. Quoted from the *Weekly Hansard*, Vol. 285, col. 199.)

(*a*) *Economic expansion and the balance of payments.*

Part II of the *Survey* opens with the following assertion:

> ' The outstanding economic problem facing the United Kingdom is still that of paying its way abroad, and the needs of the balance of Payments must continue to govern the pace of internal expansion.'

This statement of policy is a useful starting-point, for it raises some very important issues. First, what is meant, in this context, by ' expansion ' ? Second, is it in fact the case that expansion—in any sense—is likely to interfere with ' the needs of the balance of payments ' ? And third, if the answer to the second question seems to be Yes, does it follow that the rate of expansion should be checked, in order that the balance of payments should be maintained or restored ?

For the purposes of this argument, two senses of ' expansion ' may be distinguished. In the first place, it may be taken to mean an increase in *output* over a number of years—in other words, the rate of economic growth. Alternatively, it may refer to an increase in *home demand* at a particular time —brought about, for example, by lower rates of taxation, or a sudden rise in the propensity to consume of households. Expansion in the first sense depends mainly on the rate of increase of productivity over time. It is true that for output to keep pace with increases in productivity, effective demand must rise at much the same rate ; but rising demand in itself is not a sufficient condition of a high rate of growth.[1] In the second sense, expansion is a short-run phenomenon, which depends mainly on decisions concerning fiscal and monetary policy; and it has no necessary connection with the rate of increase of productivity.[1] The distinction between the two senses is only rough; but it is convenient to consider separately the long-run and short-run problems.

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[1] This may seem to beg the important question of whether the rate of increase of effective demand is the chief determinant of the rate at which productivity increases. But even supposing that such a causal relationship exists, the distinction made here remains valid It is not logically necessary that a rise in demand should bring about an equivalent increae in productivity; and it is obvious that changes in productivity occur which have no immediate connection with changes in demand.

(i) *The long-run problem*

First, is it possible to establish any relationship between the rate of economic growth and the condition of the balance of payments ? It is sometimes argued that a high rate of growth is likely to be associated with a favourable balance of payments, since in an economy such as that of the United Kingdom, the rate at which output increases will be largely determined by the demand for exports.[2] The causal relation is reversed : the rate of growth from this point of view depends on the expansion of foreign markets. There is some formal validity in the argument if (and only if) increases in productivity tend to be greater in the industries which export a high proportion of their output.[3] Even if this condition is satisfied, however, the argument is incomplete, since the demand for exports of manufactured goods, for the world as a whole, is itself partly dependent on the rate of growth of industrial countries. The higher this rate, the more rapid will be the increase in the value of exports from countries which sell primary products, and the more rapid, therefore, the rise in their demand for manufactured goods.[4]

Even for a single country, this relation between economic expansion and the volume of exports may be important, particularly if the countries from which it derives most of its imports are also its best customers. This seems to be true of the United Kingdom; for the countries which take the bulk of this country's, manufactured exports are also its chief suppliers of primary products and a high proportion of their exports goes to the British market.[5] Their prosperity and the rate of growth of their exports, and therefore closely related to the rate of economic growth of this country. The connection between this rate of growth and the demand for British exports may therefore be quite close. The same argument may be re-stated in another form. It is clear that, other things being equal, the *share* of British exports in world trade will depend on the share in the total demand for manufactured goods of the countries which are traditionally our best customers. This in turn will tend to rise if output in this country rises faster than in the other leading industrial nations. To this extent, a high rate of growth will be associated with a rather greater share in world trade.

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[1] Though in practice the decisions taken by a Chancellor or the Exchequer will generally be influenced by his view of the probable effects on output of an increase in demand.

[2] Cf. *Economic Survey of Europe in* 1953, Chapter 2.

[3] For the United Kingdom, this is quite likely to be the case.

[4] Though an increase in the exports of these countries will not necessarily lead to a significant rise in their imports, especially if it is associated with a rise in the profits of foreign-owned enterprises ; and their demand for imports will depend also on *their own* rate of growth.

[5] Pre-eminently, of course, the other members of the sterling area. Cf. the very interesting analysis presented in the *Board of Trade Journal* for May 29th, 1954, in an article on ' The Network of World Trade in 1952 and Recent Developments.'

Clearly, however, it does not follow that expansion, in this sense, will cause the balance of payments to become *more* favourable. Exports, on this argument, increase only because imports have increased; and a rise in the volume of exports brought about in this way will necessarily be smaller than the increase in imports which gives rise to it. What may be called the 'income effect' on the balance of payments of a high rate of economic growth is clearly unfavourable; and the higher this rate over a period of years, the worse—so far as the income effect is concerned—will be the balance of payments at any given time during the period. The demand for imports will rise as output and real incomes go up[1] ; and there is no reason to suppose that this will lead to an equivalent increase in the volume of exports. In this respect, there is a clear conflict between economic expansion and the needs of the balance of payments.

The conflict will be resolved only if the process of expansion causes exports, and home-produced substitutes for imports, to become more competitive. Since a high rate of growth presupposes a similar increase in productivity, there will be some tendency for this to occur; but it may be very slight. To some extent increases in productivity will lead to higher earnings, and a period of fairly rapid expansion is likely to be associated with higher profit margins than would prevail if output were stable. It is quite possible that the price-level will not be significantly affected by the rate at which productivity increases.[2] Even if it is, the effect of this change in relative prices may be too small to prevent the balance of payments from worsening as a result of the growth of output.[3] There is no *a priori* reason for expecting that the relevant price-elasticities will be high in relation to the income-elasticities. Only if this is the case, and if prices are sensitive to changes in productivity, will a high rate of growth have a favourable effect on the current account balance. On the whole, it seems more likely to have the opposite result. This rather pessimistic conclusion is strengthened if price changes as well as volume changes are taken into account. One would expect that the higher the rate of growth, other things being equal, the more rapid would be the deterioration (or the slower the improvement) in the terms of trade.

The same argument could have been formulated in terms of *relative* rates of growth—that is, the rate of growth in the United Kingdom, as compared with other industrial countries—though it would have had to be stated rather differently. Much the same conculsion would emerge. So far as its current account balance is concerned, this country might well gain rather than lose from having a relatively low rate of growth.[1]

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[1] Though not necessarily in the same proportion. The rise in imports will depend mainly on the import requirements of the industries which expand most—that is, those in which productivity increases fastest, and those which supply goods and services for which the income-elasticity of demand is high.

[2] Particularly if import prices fluctuate. A sharp rise in import prices, because of its effect on retail prices, will almost certainly lead to some increase in wage-rates, and it is unlikely that any decrease will occur if import prices fall again.

[3] Though this is an over-simplification, since the competitive position of British goods will not depend in relative prices alone. Cf. the qualification made below.

This is an absurdly crude analysis of a highly complex problem, which deserves (and has received) far more formal and rigorous treatment.[2] For the purpose of this paper, it is enough to show that a high rate of increase in productivity and production will not necessarily—nor even probably—bring about an improvement in the foreign balance. Perhaps this conclusion is not of much practical importance. It seems very likely that to analyse the problem only in terms of changes in relative incomes and prices is unsatisfactory, and that the conditions which give rise to economic expansion will also lead to a rapid increase in exports. In a progressive economic system, where innovation and improvement are the rule, new products and new industries will be developed relatively quickly; and this may confer an immense competitive advantage, even if prices are not much affected by the process of growth. The possibility of a conflict between expansion and solvency may well be a rather unreal one.

Even if it were not, this would hardly be a reason for slowing down the growth of the economy. The aim of economic policy should be to promote a high rate of growth, and to find some means of remaining solvent which is consistent with this. To ' solve ' the problem of the balance of payments at the expense of economic stagnation would clearly be a very poor second best; indeed, the problem can only be solved satisfactorily if a rise in output is achieved. *In this sense*, it cannot be agreed that ' the needs of the balance of payments must continue to govern the pace of internal expansion '; in so far as there is a genuine conflict, the order of priorities should be exactly the reverse.

(ii) *The short-run problem*

It would be unfair, however, to impute this meaning to the authors of the *Survey*. If ' expansion ' is taken to mean a particular increase in demand at home, the problem is very different. There is then the risk—especially if demand is already high—that such an expansion will cause the volume of exports to fall off. It is often maintained that the chief danger to exports is inflation, which will reduce the incentive of firms to build up their export business, and so impair our competitive position abroad. The argument is too familiar to need restating, and obviously there is something in it. Its importance, however, has been very much exaggerated. The reason for this is that both the *risk* of inflation in the British economy, and its probable *consequences*, are unduly magnified.

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[1] Subject to the qulificfition made in the next paragraph, and on the assumption that the income-effects outweigh the price-effects. It may be noted that if this assumption is not realistic, any country with a relatively high rate of increase in productivity has a persistent tendency to develop a surplus on current account ; but it also follows that its competitors can easily restore their competitive position by devaluing. (There may of course be objections to this remedy.)

[2] Cf. Professor J. R. Hicks's Inaugural Lecture, reprinted in *Oxford Economic Papers*, June 1953.

First, it seems to be generally assumed that whenever full employment prevails the danger of inflation is acute. Writers on fiscal policy often suggest that the task of avoiding both inflation and deflation is one of extreme delicacy and precariousness, in which a small miscalculation may lead to failure. Reference is made to knife-edges, tight-ropes, the narrow and treacherous straits between Scylla and Charybdis, etc. All these metaphors are misleading, at any rate when they are applied to an industrial economy in which reserves of productive capacity exist, and productivity rises from year to year. British experience since the war suggests that even if unemployment is very low, a *moderate* increase in demand can be met by expanding output—through overtime working and better utilisation of labour—provided that there is some reserve capacity and there are no serious shortages of materials and components. Further, the extra demand which will result from such an increase in output is not likely to be very great, since profit margins tend to be sensitive to changes in output—in the short run at least—and marginal rates of taxation are high. Of course there are limits to the increase in demand which the system can meet successfully at any given time; the point is that these limits seem to be a great deal wider than is often suggested.[1]

Second—and more important—the effects of excess demand are less dreadful than they are usually made out to be. For the purpose of this argument, there are two effects to be considered. First, there is the tendency for goods which might be exported to be diverted to the home market, or not to be produced at all; and second, there is the risk that inflation will lead to a rise in costs and prices, which will cause markets to be lost to foreign competitors. Each of these dangers is evident; neither will be much affected by a comparatively small change in demand, and the extent to which they will be increased by the existence of *excess* demand as such is often overstated.

The argument about the fatal attractions of the home market may be put in two quite different ways. It may be stated with reference either to a particular firm or industry, or to the economy as a whole. In the first case, which is perhaps more commonly considered, it is argued that inflation, because of its effect on demand at home, will weaken the *incentive* to export, and cause manufacturers to neglect actual or potential customers abroad. Two comments may be made on this. First, the attractive power of the home market is in any case considerable whenever demand is *high*, whether or not there is inflationary pressure. Secondly, it will only cause exports to fall off, or to be much lower than they would otherwise be, if firms are working fairly close to capacity. Provided that it has reserves of capacity, and the labour to make use of them, no firm will want to turn away orders—especially when prices are in general cost-determined, so that profits are highly sensitive to

[1] Cf. the response of the economy in the past year to the rise in exports and in the building programme. Another argument in support of this view is that not even the boldest commentator has been willing to state precisely when demand in this country ceased to be excessive, and inflationary pressure disappeared. If the boundary (to vary the metaphor), between a state of affairs in which demand is excessive, and one in which it is not, were really so narrow and well-defined, this ought to be a simple matter.

changes in the extent to which capacity is utilised. It seems likely, therefore, that this particular danger is much exaggerated. Moreover, if the risk is taken seriously, it would be just as logical—and more sensible—to encourage manufacturers in the export trades to expand their capacity as to restrict home demand.

In its other form the argument is far more convincing. Suppose that an increase in the demand for exports is anticipated, or that such an increase is urgently needed and measures are taken to stimulate it. In such a case, it is obviously important to ensure that the total level of home demand is not so high as to prevent the export trades from getting the labour and materials which they may need to meet the increase. The extent to which demand should be restrained or reduced will necessarily be a matter of judgment rather than exact calculation. It will clearly depend on the size of the increase in exports which is expected, and the reserves of labour and capacity currently available to meet it. If the state of the balance of payments is particularly bad, then there will be a strong case for taking a rather severe view about what level of home demand should be permitted. In a situation of this kind, the existence of excess demand may well make a significant difference.

The second obvious danger of inflation—that the share of the United Kingdom in world trade will be reduced by rising costs at home—is very real; but it cannot be entirely forestalled simply by avoiding inflationary pressure, nor does the existence of excess demand necessarily cause it to be much more acute. The experience of recent years has shown that the rate of increase in prices is not a simple function of the strength of inflationary pressure. Given the pricing policies which are generally followed throughout the economy, and provided that total demand remains high, the rate of increase will largely depend on (i) changes in import prices, (ii) changes in productivity, and (iii) the vigour, intransigence and success with which different groups of wage-earners and salary-earners pursue their sectional interests. None of these factors will be affected significantly by moderate changes in demand in one direction or the other. The risk that personal incomes will rise at a far higher rate than output is obviously present so long as demand is high and unemployment low. It can only be prevented from becoming serious (unless import prices fall, or productivity increases rapidly) by devising some means of slowing down this rise, or by abandoning altogether the attempt to maintain full employment.

It can be concluded that expansion, in this sense, may well increase the risk of a deficit in the balance of payments, by making it harder for the export industries to meet an increase in demand from abroad. If the *Survey's* statement is interpreted in this way—and such an interpretation is quite consistent with the decisions made in the Budget, and the analysis given by the Chancellor in presenting it—it is unobjectionable. But if the arguments set out above are valid, it is an error to suppose that the only serious threat to the balance of payments is inflation. It is true that inflation *is* a threat, mainly because it deprives the system of reserves. But the danger of rising prices is likely to persist even if excess demand is avoided, and the effect of inflation *as such* on the incentive (as distinct from the ability) to export is probably not very great. It is worth making these rather obvious points, since even now it is still commonly argued that the economic tribulations and crises, which the British economy has experienced in the past five years, have been almost entirely due to inflation. This is a naïve and dangerous view.[1] It is naïve, because no serious attempt is made to consider what evidence would be required to support this hypothesis, and to find out whether such evidence exists. It is dangerous, because it implies that ' disinflation ' is a kind of sovereign remedy—for low exports, low productivity, insufficient investment, indeed almost every economic maladjustment except a slump.[2] As a result of this obsession, other problems are unduly neglected.

(iii) *The problem of capacity*

Of these, one of the most critical is the problem of ensuring that productive capacity increases at a sufficiently high rate. An obvious potential threat to the balance of payments is that a sharp increase in import prices will raise the value of imports, while the resulting increase in foreign demand will find the export industries unable to meet it, because of capacity limitations in these industries or in the industries which supply them with materials and intermediate products. This danger may seem rather remote: fortunately, there is no reason to expect that the circumstances of 1951 will recur. It cannot, however, be entirely disregarded. It seems now to be a common presumption that changes in import prices are unlikely to be a serious danger to the balance of payments, since if the cost of imports rises more British goods can be sold to pay for them, while if it falls, the resulting fall in the demand for exports is not a matter for much concern, since fewer exports are needed anyway. But the experience of 1950–51, exceptional though it was, shows that a sudden rise in import prices can impose a very severe strain on the balance of payments unless the supply of exports is elastic.[3] The moral of this is clear: the productive capacity of the export trades, and of the industries on which they depend, should be expanded at a rate which is high enough to provide adequate insurance against this danger.[4]

In itself this is not a very helpful statement. The problems of what increases in capacity are required, and what demands would be made on the economy by carrying out such a programme, cannot be satisfactorily discussed in general terms, but deserve detailed empirical study. Moreover, it would be misleading to imply that these problems arise only because of the possibility that the terms of trade may get worse. The increases that are needed—and indeed, the increase in the volume of exports that will be needed—will depend more on the rate of growth achieved by the economy. If this turns out to be very low, the necessary increases in capacity will be correspondingly small. It is impossible to give any estimate of the required increases in quantitative terms without analysing in some detail, with more statistical evidence than is at present available, the implications of the different assumptions which might reasonably be made about import prices and the rate of growth of output. Three further comments may be made, however.

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[1] It would have been—and would still be—more dangerous if British Governments had been more influenced by the faulty diagnoses and jejune prescriptions which have been continually offered to them.

[2] The best concise refutation of this school of thought is contained in Mr. C. A. R. Crosland's book, *Britain's Economic Problem* (Jonathan Cape, 1953).

[3] Given that the prices of most British exports are closely related to costs, and that manufacturers do not in general raise prices when they have more orders than they can currently deal with.

[4] The case for this is argued with great cogency by Mr. Crosland (*op. cit.*, Chapter V). It may be added that another conclusion which might be drawn from the argument is that the exchange-rate should be more flexible, or allowed to vary more often; but there are obvious objections to this.

First, the fact that the current rate of industrial investment is so low may *perhaps* be regarded as an indication that the capacity of the export industries is being increased too slowly. It would not be surprising if, in present circumstances, manufacturers were inclined to take the risk of unused capacity more seriously than the risk of having to offer long delivery-dates. In so far as this is true, there is a *prima facie* case for a policy of stimulating investment, such as the Chancellor has adopted. Second, it is particularly important to forestall shortages of products which are made by the industries which are heavy users of capital. The more capital an industry requires per unit of output, the more difficult it is to expand its productive capacity quickly, and the greater the strain which this will impose, in boom conditions, on the investment-goods industries. What evidence there is suggests that the industries which are important in this connection, which have especially high ratios of fixed capital to output, are gas, electricity, transport, mining, and the production of pig-iron and steel.[1] In any programme of expansion, therefore, particularly close attention should be paid to these. Third and last, this particular threat to external solvency and stability can only be met by an appropriate expansion. To reduce home demand, or prevent it from arising, would not contribute to solving the problem, but might even aggravate it by weakening the incentive of businesses to expand. Such a policy would indeed create reserves of capacity; but they would not be in the right places.

(*b*) *Investment and economic growth*

The crucial problem, however, is to devise economic policies which will promote a high rate of growth of productivity and output.[2] Clearly, economic factors are not the only important ones: the rate of expansion depends to a large extent on other influences.[3] Partly for this reason, it would be absurd to suggest that a ready solution to the problem lies in the hands of the Government; there is a sense in which it is as reasonable to exhort the Government to stimulate increases in productivity as to expect it to raise the national standard of cooking. But the economic decisions which the Government takes may have a significant effect, and it is important that they should further economic expansion. Unfortunately, it is not easy to determine what for this purpose are the right decisions—if it were, the formulation of economic policy would be a simpler task, and economists would have less to disagree about. As it is, there is a great deal of disquiet about the condition and prospects of the British economy, but no generally accepted diagnosis of what is at fault.

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[1] Cf. *Studies in the Structure of the American Economy*, by Wassily Leontief and others (Oxford University Press, New York, 1953), Chapter 6.

[2] Though from some of our commentators, one would derive the impression that the supreme objective of British economic policy should be the abolition of all forms of exchange control.

[3] It might be argued, for example, that the most important contribution which the Government could make to the creation of an expanding economy would be a thorough reform of the British system of education.

It is possible to distinguish four main suggestions which are commonly made for improving the situation. These are : (i) a reduction in government expenditure and taxation[1]; (ii) a reduction in demand; (iii) the maintenance of a high level of demand ; and (iv) an increase in investment. The distinction between these is in some cases only a matter of emphasis. Only the second and third are flatly inconsistent with each other; and otherwise various combinations are possible. To consider all of them would require an inordinately long discussion, and a restatement of many arguments which have become tediously familiar. The simplest and most profitable course is to consider only the last suggestion. There are three arguments in favour of this procedure. First, it is generally agreed that the current rate of investment is disturbingly low, while there is no unanimity about any of the other recommendations. Second, the problem of investment is less obviously bound up with political issues, while it is virtually impossible to appraise the other three without considering the pros and cons of full employment, the ‘ welfare state,’ and the redistribution of income through public finance. Last and most important, it is probably the most promising line of approach. It is true that increases in productivity can often be attained without very much capital expenditure; but on the other hand, it is probable that all industrial investment has some effect on productivity. Even when investment consists only in replacement, the newly-installed equipment is likely to be more efficient than the old. The same result will follow when increases in capacity take place; and in this case there is the further point that such increases will often take the form of better and more up-to-date plant and buildings. In any case, it is hard to suppose that a satisfactory rate of growth will not demand a higher rate of industrial investment than has prevailed in the last few years.

Given that there is a case for stimulating investment, what is the best way of achieving this aim ? The Government's answer—or at least, its provisional answer—has already been given, in the form of the new investment allowances. It is impossible to say how effective these are likely to be; but at any rate it can be said that this *kind* of measure is what the situation requires. The analysis given in the *Survey* confirms what was already apparent, namely, that industrial investment last year was probably not much affected by shortages—whether of labour, materials, or finance. At any rate since the controls on industrial building were abolished, by far the greater part of investment by private industry has been unhampered by restrictions of any kind; and its amount has been determined by the deliberate decisions of businesses about how much capital expenditure it would be prudent to carry out.

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[1] An outspoken and uncompromising statement of this view may be found in Mr. Colin Clark's *Welfare and Taxation* (Catholic Social Guild, 1954).

Two important conclusions follow at once from this. First, it is ludicrous to advocate an increase in savings as a *means* to higher investment. A policy of reducing consumers' demand, unless it were accompanied—or preferably, preceded—by a determined effort to encourage investment by other means, would be worse than useless. Through its effect on current sales, and hence on expectations concerning future demand, it would reduce investment by businesses. It would release resources, but they would remain unused. Those who argue that the increase in personal consumption which has taken place over the last eighteen months has been achieved at the expense of industrial re-equipment, have simply failed to observe that inflation came to an end at least two years ago. There are many arguments for a more disinflationary policy, but this has now become one of the chief arguments *against it.* As Lord Keynes pointed out almost twenty years ago, ' up to the point where full employment prevails, the growth of capital depends not at all on a low propensity to consume but is, on the contrary, held back by it.'[1]

There is a rather more sophisticated variant of the argument that what is required is a higher rate of savings. This is that an increase in personal savings (' the life-blood of industry ') will encourage investment. In so far as an increase in personal savings *by itself* is recommended, this is open to the obvious and decisive objection made above: its effect would clearly be negative. If the increase were accompanied by equivalent remissions of taxation, so that total demand remained much the same, the objection would of course no longer apply; but it is hard to see that such a change would make much difference to the situation. Those who argue that it would, appear to make two exceedingly dubious assumptions: first, that investment plans are seriously held back by shortage of finance, which does not in general seem to be the case; and second, that ' personal savings ' are equivalent to ' risk capital ', which far from being obvious, does not seem particularly plausible. If a higher rate of investment is to be attained, more direct measures are needed.

What *is* quite possible, of course, is that if a substantial increase in investment did occur, it would then become necessary to increase rates of taxation in order to prevent this from bringing about inflation.[2] Whether this is true clearly depends on the size of the increase, the rate at which productivity is rising, and a number of other factors which it would be tedious to enumerate. On the whole, it seems unlikely that any danger would arise unless investment increased to a greater extent than seems at all probable. Even if industrial investment were to increase by 25 per cent over its level last year, the absolute value of such an increase, at 1953 market prices, would only be between £350 m. and £400 m. per year. Even allowing for the rise in consumers' demand which would necessarily result from it, the kind of increase which seems likely to be achieved should not cause much trouble. The danger cannot be ruled out, but there seems to be no point in taking measures to forestall it.[1]

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[1] *The general Theory of Employment, Interest and Money* (Macmillan, 1936), pp. 372–3.

[2] Cf. the articles by Professor R. F. Kahn, on ' The Case for Cheap Money ', published in the *Financial Times*, June 3rd and 4th, 1954.

The second conclusion is less certain, and more controversial. It is that neither a reduction in interest rates, nor a lower rate of taxation on undistributed profits, should be relied on as a stimulus. This is partly based on the judgment that existing reserves, current rates of profit, and the borrowing facilities which are at present available, are fully adequate to support a higher level of capital expenditure by private businesses. Of course this needs qualification. It is true that aggregate estimates of profits and capital expenditure may conceal important differences between particular firms; that no account is taken, in the official figures, of capital expenditure abroad; and that new and relatively small businesses, which may find it hard to borrow at reasonable rates, are hampered by the existing rate of tax in the attempt to finance their growth out of currently accumulated profits. What evidence there is, however, suggests that (to quote from the *Survey*) ' in total, shortage of finance does not appear to have been a factor limiting industrial investment in 1953 '[2]; and in this respect the situation has not changed this year. Thus although investment plans may in some cases have been postponed or curtailed by shortage of finance, the *quantitative* importance of this is not likely to have been very great. If this is so, a more liberal taxation policy, which allowed firms to retain a higher proportion of their current profits, would be reflected mainly in larger dividends and reserves, rather than an increase in capital expenditure.

This argument alone, however, is not decisive. Given that there is no absolute shortage of capital, the size of investment plans will clearly depend on expected net returns; and these are affected both by cheaper money and by a lower rate of profits tax. There is little reason to suppose, however, that the first of these has much influence on industrial investment. It will certainly have *some* effect, and it is well worth trying; but past experience does not suggest that the results will be very striking.[3] As for a reduction in profits tax, three comments may be made. First, if it were to have much effect on investment decisions, it would probably have to be substantial. Second, it might conceivably have some negative effect on efficiency, since it would

[1] Any substantial rise in investment might give rise to other difficulties, such as shortages of materials or capacity ; but that is another matter.

[2] Para. 62. Cf. the *Manchester Guardian Survey*, p. 27.

[3] Professor Kahn, in the articles referred to above, makes out a very convincing case for a policy of reducing interest rates. But the main reason why he attaches such importance to this particular means of encouraging investment seems to be that he regards other method as largely ineffectual. The arguments which he uses to defend this view are less convincing.

make it easier for inefficient firms to stay in business, and earn a satisfactory return, without either expanding or introducing improvements. Third, the effect on investment could be obtained, at a smaller cost to the Exchequer, by a system of giving tax remissions in respect of investment. If the object of reducing the tax is merely to encourage investment, it seems more logical to do this directly.

It follows that the policy which the Government has adopted in dealing with this problem is in principle sound, so far as it goes. Whether the investment allowances are adequate for their purpose is a matter of judgment. If their apparent effect turns out to be disappointingly small, it would be worth considering some more radical scheme. One possibility is that suggested by Dr. Kalecki.[1] According to this, firms would be able to deduct *all* capital expenditure from profits in calculating the amount which would be subject to tax.

In any case, there are strong arguments for a reform in the present system of business taxation. As it is, profits are, in a sense, both too high and too low. *Current* profits are too high—in some cases at least—in the sense that relatively inefficient firms and methods may survive quite comfortably; while *expected* profits, partly because of the high rate of tax which has to be allowed for, are too low to cause businesses to undertake the investment that is needed. Thus the penalties of inertia are too weak, and the rewards of expansion too small.

What is required—if it can be devised, which admittedly seems unlikely—is a tax on businesses which would be analogous to a poll tax on individuals or households. The difficulty is, of course, that any tax which is imposed on an enterprise must bear some relation, directly or indirectly, to its size; and this cannot easily be made compatible with providing the required stimulus to efficiency and growth. One method of achieving a reconciliation would be for each firm to be compelled to pay to the exchequer a very high proportion of all profits below a certain standard amount—which could be based on its output or earnings in some recent period[2]—while on profits above this amount it would pay only a very low proportion. Under such a system, it would be necessary for firms to expand, or to introduce cost-reducing improvements in order to make reasonably large net profits; while the gains from success would be very considerable. It seems obvious, however, that this particular scheme would be exceedingly complex to work out and put into operation; and it could hardly avoid the appearance at least of being arbitrary and unjust in many instances. But the present arrangements are clearly unsatisfactory, and it should be possible to devise some improvement.

For the sake of completeness, it should be added that the Government itself bears some responsibility for the rate at which cost-reducing capital expenditure is carried out. In particular, it is hard to justify the failure to adopt a more ambitious programme of road construction. Given the neglect which the road system has suffered for the past fifteen years, and the obvious benefits which would result from improving it, the present and prospective levels of expenditure seem clearly inadequate. The habit of postponing schemes of this kind, which was appropriate during the war and defensible so long as strong inflationary tendencies persisted, should by now have been discarded.

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[1] *Vide* Chapter 2 of *The Economics of Full Employment* (prepared at the Oxford University Institute of Statistics; published by Blackwell, 1944).

[2] Some provision would have to be made for adjusting this standard amount in order to take account of price-changes.

This principle may have a more general application. The argument that this year, next year, and the year after, ' our resources ' will not permit the undertaking of ambitious schemes of expansion, has almost become a conditioned reflex; and it may be a serious obstacle to economic progress. What matters at present is that a new process of expansion should be *started*, and it is in this respect that the role of the Government—through its own investment decisions, its control over nationalised industries, and the indirect influence which it may exert on private businesses—is critical. Probably the most important single factor in determining the rate of growth is the quality of those who are in control of enterprises—their training, abilities, and attitude of mind.[1] But this cannot be taken for granted : it can be influenced to some extent by the Government's policies, by the results of these policies, and by growing awareness of the needs and possibilities of the situation. What is required above all is a climate of opinion in which expansion is regarded as both natural and desirable. With nations, as with individuals, what is achieved depends on the objectives which are chosen.

P. D. HENDERSON.

APPENDIX

METHODS AND SOURCES

It will be obvious that in preparing the estimates given in the text, I have relied very largely on the methods developed by Mr. D. G. Holland and Mr. Dudley Seers, in making their quarterly estimates of national income components and other series. In general, I have followed the procedures which they outline in Appendix I of their article, ' The Paradoxes of 1952 ', published in the *Bulletin* for November and December 1952; and the reader is referred to this for details. Where my procedure differs from theirs, details are given below. They are of course in no way responsible for any misuse or misinterpretation of their methods which I may have been guilty of.

New seasonal correction factors have been calculated for all the series, based on the years 1950–53, and these are also shown below.

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[1] Cf. the last section of the admirable article by Mr. N. Kaldor, on ' The Relation of Economic Growth and Cyclical Fluctuations ', (*Economic Journal*, March 1954).

Table 1. Gross Domestic Product at 1952 Factor Cost, Seasonally Corrected

Table 8 of the *Survey* gives an estimate of the increase in the gross domestic product between 1952 and 1953, at 1952 factor cost; and this, together with the figure for 1952 which is given in Cmd. 9118, gives the two annual totals. In deriving the quarterly estimates, the indicators used were those devised by Messrs. Holland and Seers, except that changes in the value of output of the agricultural sector were estimated from data supplied in the *Survey*.

The estimates of ' value added ' in individual sectors are very dubious and uncertain, since no information about these is given in Cmd. 9118, and the estimates have had to be based on Table 10 of the Blue Book. It would not have been worth while to show estimates for individual sectors if the figure given in Cmd. 9118 for the *total* gross domestic product in 1952 had not been very close to the Blue Book's estimate. This makes it reasonable to suppose that using the individual totals, which are given in the Blue Book, is not likely to lead to any serious error.

The quarterly estimates which were initially made for 1953 showed an increase in total output between 1952 and 1953 rather greater than that suggested by the *Survey*. There are three possible explanations of this, which are not of course incompatible with each other : the weight given in the estimates to Manufacturing and Building, where the rise in output was greatest, may be too large; the indicators used in estimating changes in the output of ' Other Sectors ' may have had an upward bias; and the *Survey's* figure may be too low. There is no way of investigating the first possibility, and of the other two the first is more likely. The original estimates of the output of ' Other Sectors ' were therefore adjusted downwards, so as to make the increase in *total* output equal to the figure of £500 m. given in the *Survey*.

Seasonal correction factors for the output of the sectors covered by the Index of Production were calculated from the estimates shown in Table A.

Table A

Industrial Production : Average percentage fluctuation from 12-month moving average, 1950–53

Month	*Mining*	*Manufact'g.*	*Building*	*Utilities*
January	+ 3½	+ 1	— 5	+17
February	+ 6½	+ 4	+ 1½	+16
March	+ 7	+ 6	—	+ 9
April	— 1	— 2½	— 2½	— 1
May	+ 1	+ 1½	— 2½	— 7½
June	— 1½	+ 2	+ 3	—13
July	—10½	— 7½	+ 1	—17
August	—17½	—13½	— 2	—18
September	+ 2½	+ 2	+ 6½	— 8
October	+ 5	+ 5	+ 2½	—
November	+ 6	+ 5	+ 4½	+ 9½
December	— 1½	— 3½	— 7	+14

TABLE II. GROSS DOMESTIC EXPENDITURE AT 1952 MARKET PRICES, SEASONALLY CORRECTED

The total for each quarter, and for the year 1953, was arrived at by assuming that changes in expenditure were exactly parallel with changes in output from one quarter to another. This is a crude procedure, since it requires the assumption that the ratio of expenditure at 1952 market prices to expenditure at 1952 factor cost remains unaffected by changes in the composition of expenditure; but it is unlikely to give rise to any serious error. As for the components of expenditure, personal consumption was estimated from the official quarterly data, changes in government expenditure can be roughly assessed from information given in this year's *Survey* (paragraphs 40 and 41) and last year's, and investment is obtained as a residual. Each of the components of personal consumption expenditure was estimated separately (cf. Table III).

The figures for exports and imports require more explanation. It will be noticed that the increase in each, which is shown in Table II, is greater than those estimated in the *Survey*. There are probably two reasons for this. The first is a difference in definition. In Table II allowance is made for the imports and exports of goods and services which are included in the Balance of Payments White Paper (among other things) under the heading of ' Other (net) ';[1] it is possible that these are not taken into account in the *Survey's* estimate. The main reason, however, must be a difference in methods of estimating, and in particular, in estimating the changes which have occurred in ' invisible ' items. The *Survey's* implied figure for this seems curiously small, and I have preferred to use my own estimates, crude though they are, rather than make arbitrary and uncertain adjustments to them. The *net* effect on the estimates for 1953 as a whole is small.

In arriving at the other estimates for 1953 as a whole, it was assumed that the increases in government expenditure and fixed investment were the same whether measured at market prices or at factor cost. The figure for changes in stocks is a residual, but it turns out to be very close to the estimate in the *Survey*.

TABLE III. PERSONAL CONSUMPTION AT 1952 MARKET PRICES, SEASONALLY CORRECTED

The derivation of this table is quite straightforward. Seasonal correction factors were calculated from the estimates published in the *Monthly Digest*, of expenditure in each quarter at 1948 prices. The corrected figures were then converted to 1952 prices by multiplying each by the appropriate price index. Estimates of seasonal fluctuations are shown in Table B.

[1] Cf. the notes to Tables IV and V.

TABLE B

Personal consumption expenditure : Average percentage percentages from trend for each quarter, 1950–53

Item	I	II	III	IV
Food	— 2½	— 3½	+ 1	+ 5
Beer	—17	+ 2	+13	— 2
Other Alcohol	— 6½	—18	—12	+24½
Tobacco	— 4½	— ½	+ 4½	—
Fuel and light	+17	— 3½	—24½	+ 2½
Household goods	— 1½	— 4	— 8	+11½
Footwear	—21½	+ 6	— 3	+12½
Other Clothing	—13	— ½	— 7½	+16
Travel	—21½	+ 1½	+20	—10
Entertainment	+ 4	— 4	+ 2½	— 2½
Other goods and services ...	—11	— 1	+ 5½	+ 5

Note.—In the case of rent, rates and water charges, seasonal variation is negligible.

TABLES IV AND V. BALANCE OF PAYMENTS AT CURRENT PRICES

The definitions used here are in principle those of the Balance of Payments White Paper, rather than those of the Trade and Navigation Accounts. The difference between them is discussed in the notes to the latest White Paper (Cmd. 9119), and the figures given there have been used in drawing up these Tables. The estimates for visible imports and exports are based on the figures given in the Trade and Navigation Accounts. In order to allow for differences in timing, both imports and exports are lagged by one month : for example, the estimate given here of visible imports in the first quarter of 1953 is based on the Trade Accounts figures for imports in February, March and April; and for exports on the Trade Accounts figures for December, January and February. This is a very rough procedure, since there is no reason to expect a consistent time-lag in either series. However, a lag of one month seems reasonable, and when tested by taking the figures for the last few years it comes out quite well—that is, it caused the ratios of the White Paper figures to the Trade Accounts figures to fluctuate less from period to period.

One important difference in definition must be noted. The item described as ' Other (net) ' in the White Paper has been split up into its componen parts, and the payments made under this heading have been added to the figure for ' invisible ' imports. The information which enables one to do this is given in Cmd. 9118, where a different convention is adopted which has been followed here. The results of this simple calculation are of some interest.

Main Components of ' Other (net) ' Receipts, 1952 and 1953

Payments			*Receipts*		
Item	*1952*	*1953*	*Item*	*1952*	*1953*
Payments for goods and/or services	10	10	Receipts from sale of goods and/or services	203	207
Interest, Profits and Dividends	145	123	Interest, Profits and Dividends	207	230
Current Transfers	6	6			
Total	161	139	Total	410	437

This breakdown renders it possible to make slightly better guesses at how this rather mysterious item in the balance of payments might have changed from one quarter to another.

In making allowance for seasonal variations, the interest payments to the U.S. and Canada have been spread evenly over the year, and travel expenditures have also been smoothed out. For visible trade, the following estimates of seasonal variation were calculated from the *value* figures given in the Trade and Navigation Accounts, lagged by one month as described above.

Estimated Percentage Fluctuations from Trend, 1950–53

	I	*II*	*III*	*IV*
Visible Imports	— 1	+ 5	— 4	— 1
Visible Exports	— 2	+ 2	— 3	+ 2

Not much reliance can be placed upon the estimates for imports, because of the effects of the import cuts of 1952. The *net* effect on the current account balance of allowing for seasonal variations is small, since corrections to the different items tend to cancel one another out.

TABLES VI AND VII. PRODUCTION AND PRODUCTION PER EMPLOYEE IN MANUFACTURING INDUSTRIES

Table VI was derived from the official index numbers of industrial production. A period of four months was chosen because the seasonal correction factors calculated for this are less likely to be misleading than those calculated from quarterly data: not only is the period rather longer, but no adjustment has to be made for Easter or Whitsun. The estimated seasonal fluctuations in the individual series are shown in Table C.

Table VII was calculated by shifting the index-numbers given in Table VI on to a 1951 base, and dividing them by index-numbers of changes in employment which were derived from the *Ministry of Labour Gazette*. Seasonal variations in the employment figures are negligible except in the case of the food, drink and tobacco industries, for which a correction was made.

TABLE C

Manufacturing output: Average percentage deviations from trend for each four-monthly period, 1950–53

Industries	*I*	*II*	*III*
Non-metalliferrous mining manufactures	+ ½	—3½	+3
Chemicals and allied trades	+2	—5	+2½
Metal manufacture (ferrous)	+2	—4½	+2½
Metal manufacture (non-ferrous)	+1	—8	+6
Engineering, shipbuilding and electrical goods	+1	—5½	+4
Vehicles	+1½	—4½	+2½
Metal goods, not elsewhere specified	+2½	—7	+4
Precision instruments, jewellery, etc.	—1½	—6	+7
Textiles	+2	—7	+4½
Leather, leather goods and fur	+2	—6½	+4
Clothing	+7½	—6½	—1½
Food	—1½	+3	—1½
Drink and tobacco	—5	+3½	+1
Manufactures of wood and cork	—1½	—4	+5
Paper and printing	+2	—5½	+3½
Other manufactures	+1	—6	+4½

THE 'COURBE DES POPULATIONS,'

A FURTHER ANALYSIS

The usual means of summarizing the facts of population distribution between settlements of different size is a simple percentage breakdown—for example, the percentage of a country's population living in rural areas or in urban areas. There is no measure in frequent use which presents a concise summary of more complex relationships and which, through being independent of variation in definition of what is ' rural ' and what ' urban ', can be used to make reliable international or intertemporal comparisons of the patterns of population settlement. For example, to be told that a country has a given proportion of its population living in towns over a specified size tells something, but information on the distribution of this proportion between towns of varying sizes is knowledge both economically and socially more significant. In particular two measures are necessary :

(*a*) *an index of metropolization.* This serves to show the extent of population concentration in the regional or national metropolis, and could be simply the percentage of the total regional or national population living in the metropolitan agglomeration(s);

(*b*) *an index of urbanization.* This would show the dispersion of population by towns of various sizes and would need the same techniques as an analysis of the distribution of income.

H. W. Singer, in an article in *The Economic Journal*, June 1936, claimed that the Pareto formula applied to income distributions could be used to provide the required index of urbanization. (He did not distinguish between an index of metropolization and on index of urbanization, but used the terms synonymously.) Thus, $\text{Log } y = \text{Log } A - a \text{ Log } x$, where y is the number of towns over a specified size and x the size (as measured by number of inhabitants), is the suggested relationship. He produced evidence for 7 countries and, by taking population statistics for varying dates, used 23 cases to draw the following conclusions.

(1) ' In the distribution of population among urban agglomerations there appears to be a remarkable statistical regularity which, besides being interesting in itself and affording a complete analogy to Pareto's Law of income distribution, yields an exact quantitative measure for the relative roles of the smaller and larger types of human agglomerations, so to speak " an index of metropolization ".'

(2) The Pareto line was held to give good results at both extremities. When y was taken equal to 1, ' we find that x is indeed a number of inhabitants smaller than that of the largest town and larger than that of the second town, and that it is not for from the geometrical mean of the two populations '. At the other end of the line, the relationship was considered to hold generally down to agglomerations of 200 persons.

These claims led to the firm conclusion that ' a ' (in the equation) ' can be considered as an index of the distribution of the whole population, both rural and urban, on places of different size, and as a precise and unambiguous measure of urbanization '. Further, given these conclusions we can take ' a ' as an index of metropolization, removing the need for the measure mentioned earlier.

Singer's claims can be extensively tested from statistics for 58 countries at various dates after 1946 and covering not only most of the larger countries but also such small ones as Iceland or Alaska. No country with less than 50 recorded towns or villages with populations over 200 is included. The chief source is the United Nations' *Demographic Yearbook for* 1952 (Tables 7 and 8). In addition, statistics given by J. H. B. Lebon in *The Geographical Review*, October 1953, are used for Iraq, being a revision of those in the *Demographic Yearbook*; statistics for Australia have been compiled from the *Australian Yearbook* for 1953, and those for the United Kingdom are supplemented from G. W. S. Robinson, British Conurbations in 1951. *The Sociological Review*, December 1953. Finally, more historical evidence is added to that given by Singer, being taken from various sources.

The ideal way of measuring the size of a town for present purposes is to include all persons living in ' an area occupied by a continuous series of dwellings, factories and other buildings, harbour and docks, urban parks and playing fields, etc., which are not separated from each other by rural land '.[1] In other words, the most valuable statistical series are those which give the sizes of conurbations (i.e. nucleated settlements which may, or may not, extend beyond legal boundaries of towns). The alternative measure is the total population living within town legal boundaries. Both means of compilation are embodied in the statistics used hereafter (as can be seen from columns (1) and (2) of Table 1), although for some countries a hybrid of the two approaches has been produced (Column 3 of Table 1), using the ' conurbation ' definition for towns over 100,000 population and the ' legal boundaries ' definition for the remainder (excluding those which have passed above 100,000 population when measured as conurbations). Finally for some countries the statistics refer to ' relatively small or smallest administra-subdivisions having fixed boundaries and, in sum, comprising the entire country ' (*Yearbook* definition). This is a means of measurement which will approximate most to the ' legal boundaries ' method. Results based on it are included in Column (1) of Table 1.

Other things being equal the highest values for ' a ' should be obtained from statistics based on the ' legal boundaries ' or ' fixed boundaries ' definitions of town sizes, since the numbers of large towns which have grown up in recent years by overspilling legal boundaries are many in most countries. The lowest values of ' a ' should be obtained by employing the hybrid definition, since the effect of building up the groups with the larger towns (partly by removing towns from the groups with the smaller towns), which the ' conurbation ' definition does, while not doing the same with the smaller

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[1] C. B. Fawcett, quoted by G. W. S. Robinson.

TABLE 1. *Summary of Results from Pareto Functions fitted to Statistics for 44 Countries, 1946 or Later*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Value of Pareto Co-efficient			*Last size group at upper end of Pareto Line covered by linear relationship*	*Average Error of Estimates*			
					Size groups covering more than 9 towns		*Size groups covering more than 3 towns*	
	(*a*)	(*b*)	(*c*)		*No. of groups*	*Value of error* (%)	*No. of groups*	*Value of error* (%)
Czechoslovakia ...	1.30			2000*	5	7.1	6	7.9
Denmark ...		0.89		500	6	14.3	7	16.6
Eire		1.15		2000	3	3.7	4	2.9
United Kingdom	1.38	0.98†		50000*	3	8.1	4	6.1
England and Wales	1.45	0.98†		50000*	3	1.4	5	4.8
Scotland ...	1.04			2000	4	6.4	6	10.7
France	1.23			500	8	4.2	9	6.0
Germany (see Notes)	1.13			500*	9	4.0	10	3.9
Hungary	1.32			2000	5	7.6	6	13.4
Iceland		0.91		200	3	2.7	4	4.1
Italy	1.41			5000	6	7.7	7	13.5
Belgium	1.41			5000	4	5.1	5	5.3
Holland		0.94		500	8	3.6	8	3.6
Luxembourg ...	1.11			500	3	14.0	5	15.0
Norway		0.85		2000	4	3.9	5	9.1
Poland	1.09			5000	5	3.4	6	2.8
Portugal ...			1.43	1000*	4	6.9	4	6.9
Spain	1.17			5000	5	5.1	6	5.0
Sweden		0.99		1000	6	6.5	6	6.5
Yugoslavia ...	1.03			10000	2	0.0	4	5.0
Alaska			0.91	200	3	1.7	5	2.3
Canada	0.98			2000	6	8.5	7	8.7
United States ...	1.05		0.99	2000	8	4.0	9	3.8
Costa Rica ...			0.70	500	3	2.3	5	2.9
Cuba		0.94		1000*	4	2.0	4	2.0
Dominican Republic	0.79			1000	4	5.2	4	5.2
El Salvador ...			1.16	1000	3	2.8	4	2.2
Haiti	1.01			500	4	6.1	5	6.2
Mexico		1.34		250	8	5.8	9	8.0
Nicaragua ...	0.95			1000	3	6.4	4	5.7
Puerto Rico ...		1.02		2000	3	1.2	5	9.1
Argentina ...			0.91	1000	7	3.1	8	4.7
Brazil		1.12		2000*	6	8.1	7	6.9
Chile			0.91	500‡	6	10.2	7	15.9
Ecuador	1.05			2000	3	4.1	4	5.1
Venezuela ...	1.00			2000	3	2.0	4	2.2
New Zealand ...	0.74			1000	5	8.2	6	8.5
Hawai		0.95		500	3	3.7	4	4.5
Algeria			0.88	2000	4	4.8	5	4.7
Egypt	1.77			2000	5	13.6	5	13.6
South Africa ...			0.85	1000	6	8.1	8	7.2
Turkey	1.27			5000	4	9.9	5	7.9
Iraq	0.93			3000*	3	0.8	4	2.1
Israel	0.79			200	6	13.0	7	13.8
Japan	1.16			20000*	4	23.2	6	22.4
Malaya	0.88			500	5	7.0	6	10.4

Cols. 1–3. Pareto coefficients based on statistics using town limits defined as follows: (*a*) Legal boundaries or fixed boundaries. (*b*) Conurbations. (*c*) Hybrids.

† Source: G. W. S. Robinson, op. cit.

Col. 4. Where two coefficients are given, this column relates to the last mentioned.

* Indicates that statistics for smaller town size groups not available.

‡ Below this group, estimated numbers of towns greatly below actual numbers.

Germany includes Berlin, the Federal Republic (Western) Zone and The Democratic Republic (Eastern Zone). 'De jure' population (1950) only is included for the Federal Republic. The Democratic Republic statistics (1946) also include refugees and prisoners of war.

Sources: *Demographic Yearbook for* 1952 (Tables 7 and 8), United Nations: J. H. B. Lebon in *Geographical Review*, October 1953: G.W.S. Robinson in *The Sociological Review*, December 1953.

groups, underestimates the number of conurbations in these last groups. The value of ' a ' using the conurbation definition will fall between the other two estimates. It will probably be nearer to the result from employing the 'hybrid' definition since it seems unlikely that the numbers of towns in the smaller size groups would be increased proportionately with those in the larger groups by a consistent change from the ' legal boundaries ' definition to that based on conurbations.

A criticism of the Pareto function as a summary of income distribution is that it overestimates the number of very small incomes and underestimates the number of very large ones. Preliminary inspection of the evidence showed that in its present use the function has the same defect, particularly for the smaller towns. In fitting the Pareto functions,[1] therefore, the following allowances have been made in deciding the range of any series over which the linear relationship would apply.

(1) As regards smaller towns, the observed results will be below the expected results. The critical size group below which the linear relationship ceases to hold is rarely above that for ' towns having 2,000 population or more '. Singer missed this point, probably because few of the series he used went below the 2,000 population size group. His conclusion of linearity down to agglomerations of 200 persons, mentioned earlier, is clearly inadequate in the light of Column (4) of Table 1.

(2) Both between countries and within countries over time this point of departure from a linear relationship changes. Any increased departure from linearity is related to the decline of the village as a milieu of human habitation, associated with the development of secondary and tertiary economic activities. Therefore, the linear relationship is likely to persist below the 2,000 population size group in predominantly agricultural and forestry economics. Exceptions to this will occur where (as in Spain or Italy) the village community has not flourished for many centuries and where the agricultural population lives in larger nucleated settlements. Further, the relative decline in the number of villages is partly the result of the coming of motorized transport, so that in low income primary economies at present or in developed economies in earlier periods the linear relationship may give a good fit when the lower limit of the statistics is reduced even to the 500 or, occasionally, 200 population size limits.[2]

(3) At the other end of any series groups containing less than 3 or 4 towns have been ignored if they do not fall into a linear pattern *clearly* established by the other observations in the series.

The first stage of the analysis was to isolate those countries for which a linear relationship in the logarithms was not the appropriate choice, given the desire to summarize the statistics functionally. These were Australia, Austria, Bulgaria, Ceylon, Finland, India (1941 boundaries), Panama, Phillippines, Rumania, Russia, Ryukyu Isles, the Saar, Switzerland and Thailand. Statistics for Russia covered only towns, delineated by legal boundaries, above 100,000 population. Only Australia and India had statistics classified according to conurbations.

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[1] All estimates have been worked graphically.

[2] The Pareto function calculated for Canada from the statistics of Table 6 support the arguments of this section. Taking the group of towns having populations of 1,000 or more, the actual number exceeds the expected number of towns as follows : 1911, + 12 per cent ; 1921, + 20 per cent ; 1931, + 24 per cent ; 1941, + 39 per cent. For towns having populations of 500 or more, the percentages are : 1921, 52 ; 1931, 52 ; 1941, 81.

To measure the goodness of fit of the Pareto functions to the surviving 44 countries, the average percentage error of estimate at each size group within the range of linearity has been estimated on the same basis as did Singer: namely, as $100 \frac{(y_1 - y)}{y}$ where 'y' is the actual number and 'y_1' the theoretical number of towns above 'x'. The results are shown in detail in Table 1 and summarized in Table 2.

TABLE 2. *Frequency Distribution of Average Errors of Estimate*

No. of Countries where Average Error (%)

	2.0–3.9	*4.0–6.9*	*7.0–9.9*	*10.0 or more*	*Total*
Europe (*a*)	2	4	1	3	*10*
(*b*)	2	4	1	1	*8*
The Rest (*a*)	2	4	3	4	*13*
(*b*)	5	4	3	1	*13*
Total	*11*	*16*	*8*	*9*	*44*

Notes. (*a*) Towns covered by legal definition of size.
(*b*) Agglomerations and hybrids.
Source. Column (8), Table 1, excluding England and Wales and Scotland.

Twenty-seven out of the 44 series analysed give an average error of estimate of less than 7 per cent (the maximum average error quoted by Singer for any of the series analysed by him), and only 9 have an average error greater than 10 per cent. The result supports Singer's main thesis more strongly than these totals suggest. Seven of the 10 series giving average errors of estimate over 10 per cent relate to countries where town sizes have been measured using the 'legal boundaries' or 'fixed boundaries' definitions. If only those countries are included where all towns or the larger towns have been measured as conurbations, 15 series out of 21 have an average error of less than 7 per cent and only 2 above 10 per cent.

At first glance there is little support from the analysis for Singer's additional conclusion that, when y is taken equal to 1, x is found to be a number of inhabitants between those in each of the two largest towns, and probably near the geometric mean of their populations. Only 25 cases are found in support out of 42 for which statistics can be obtained for the two largest towns separately. This is shown in Table 3. (One more case—Mexico—should probably be included in view of the differing dates of the various statistics available.) The strength of Singer's thesis is greater when only those statistical series are included for which either the conurbation or hybrid definitions were employed. Then 12 (including Mexico) out of 18 cases support the thesis. If only those series are used in which the 'conurbation' basis of measurement is applied, the conclusion is even stronger. Eleven out of 12 cases fit the thesis.

TABLE 3

Test of Singer's Hypothesis Concerning Vale of ' x ' when ' y ' = 1

All or large towns measured as agglomerations	*Largest town* (*millions*) (x_1)	*Second Largest town* (x_2)	*Geometric mean when estimated size of largest town falls between* x_1 *and* x_2	*Estimated ' x ' when ' y ' 1*
Denmark	1.17	.15	.41	.39
Eire	.51	.08	.20	.10
Iceland	.04	.006	.015	.01
Holland	.80	.65		1.30
Norway	.43	.11	.22	.35
Portugal*	.78	.28		.11
Sweden	.98	.41	.63	.60
U.S.A.*	12.3	4.9		13.0
Cuba	.66	.12	.28	.41
El Salvador*	.16	.05	.09	.07
Mexico	2.2^{1}	.38^{1}		.34
Puerto Rico	.22	.13	.17	.17
Argentina*	4.6	.47	1.5	1.3
Brazil	2.4	2.0		1.3
Chile	1.0	.20	.45	.47
Hawai	.25	.03	.09	.04
Algeria*	.49	.27		.50
South Africa*...	.88	.57		1.21
Towns not measured as agglomerations				
Czechoslovakia	.92	.27	.50	.32
England and Wales ...	3.3	1.1	1.9	1.7
Scotland	1.1	.47		.43
France...	4.8	.64	1.75	1.26
Germany	3.4	1.6	2.3	3.40
Hungary	1.6	.13	.46	.38
Luxembourg	.06	.03	.04	.04
Belgium	.26	.18		.34
Italy	1.7	1.3		1.1
Poland	.64^{2}	.62^{2}		.89
Spain	1.6	1.3		1.1
Yugoslavia	.37	.28		.41
Canada	1.3	.68	.94	1.1
Dominican Republic ...	.18	.05	.09	.18
Haiti	.14	.025	.06	.05
Nicaraqua	.11	.03^{3}	.06	.06
Ecuador	.26	.21		.10
Venezuéla	.49	.23	.33	.38
New Zealand	.33	.17		.52
Egypt	2.1	.92		.18
Turkey	1.0	.29	.54	.36
Iraq	.47	.13	.25	.31
Israel	.35	.15		.43
Japan	5.4	2.0	3.3	3.0

Notes : (1) Sizes in 1950. Estimated ' x' when ' y ' = 1 derived from statistics for 1940
(2) Sizes in 1950. Estimated ' x ' when ' y ' = 1 derived from statistics for 1946.
(3) Maximum size possible of town when measured according to legal boundaries.
* Only large towns measured as agglometations (i.e. hybrid definition used.)

The main conclusion is, therefore, that the Pareto Law can be used with much success to summarize the relationships between size of towns and number of towns at or above a specified size. Although the evidence does not show that it can be assumed as a universal law, it seems that, given statistics relating to true conurbations the law would be much more forcefully supported.

The most telling piece of additional evidence to this effect concerns the United Kingdom. The Pareto relationship for the United Kingdom summarized in Column (1) of Table 1 provides a poor result, which is not surprising in view of the use of legal boundaries to measure town sizes. G. W. S. Robinson, in the article mentioned earlier, has recalculated the 1951 statistics so as to give the sizes of all conurbations, accurately measured, above 50,000. The regression line fitted to his data gives a different result (summarized in Column (3) of Table 1) and provides an estimate of ' x ' (size of town) when 'y' = 1 which falls between the actual sizes of the two largest towns and close to the geometric mean of their sizes. Table 4 compares the two estimates in detail.

TABLE 4

Estimates for United Kingdom in 1951 using (a) Legal Boundaries Classification and (b) Conurbations Classification, of Towns by Size

Size of Town	*(a) No. of towns over specified size* *Actual*	*Estimated*	*Error %*	*(b) No. of Towns over specified size* *Actual*	*Estimated*	*Error %*
Over 50,000	166	165	— 0.6	95	95	0.0
,, 100,000	71	63	—11.3	49	49	0.0
,, 250,000	16	18	+12.5	20	20	0.0
,, 500,000	7	7	— 0.0	9	10.2	+11.3
,, 1 million	3	2.8	— 6.6	6	5.2	—13.3
,, 2½ million	1	0.75		2	2.1	+ 5.0
,, 5 million				1	1.1	
Value of Pareto coefficient		1.38			0.97	
Average error of estimate (groups with more than 3 towns)			6.1			4.9
Size of largest town (m.)	3.3			8.8		
Size of 2nd largest Town (m.)	1.1			2.6		
Geometric Mean	1.9			4.8		
Estimated 'x' when 'y' =1		1.7			5.6	

Sources. (*a*) as Table 1, col. (1) and Table 2. (*b*) G. W. S. Robinson, op. cit.

Although the law does not hold for series extending to the very small settlements, with a few exceptions as evident from Column (4) of Table 1, the ranges of the linear relationships cover most of the total populations living in nucleated settlements in most countries. Given adequately devised statistics, there is a strong presumption that the law would provide a common measure of both urbanization and metropolization.[1]

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[1] This conclusion is not weakened appreciably by the fact that 14 countries have been excluded for which linear relationships could not be established. The list can be reduced as follows. The Phillipines and the Ryukyu Isles, being each a group of well separated islands, have little in common geographically with any other country included in the study. The Saar, perhaps, should not have been treated separately since, for historical and geographical reasons, its development over a long period has been controlled by either France or Germany. (It will be seen in Table 1 that Luxembourg's Pareto function does not give a close fit. Luxembourg, to a great but lesser degree than the Saar, has long been dominated economically by much larger neighbours.) Panama may be a special case by virtue of its canal. The boundaries of India in 1941 contained many states which had long been autonomous or partly independent. It is wrong, therefore, to treat the Indian statistics as one homogeneous series in the present analysis. The statistics for Russia, as noted above, are incomplete.

Eight countries remain, only one of which has its towns measured as true conurbations. Thus, in all, the exceptions include 4 special cases (none an important country) and 9 for which the statistics are not suitably derived.

TABLE 5

Changes in Indices of Urbanisation, 1871–1951

	England and Wales	*France*	*Germany*	*Sweden*	*United States*	*Hungary*	*Spain*	*Canada*	*Japan*
1871	...	...	1.45	...	...	...	...	...	...
1872	...	1.20	...	...	...	...	...	...	...
1876	...	1.24	...	...	...	...	...	...	...
1880	...	...	...	...	1.11	...	...	...	...
1881	...	1.23	...	...	...	...	...	...	...
1885	...	...	1.25	...	...	...	...	...	...
1886	...	1.21	...	...	...	...	...	...	...
1890	...	...	...	...	1.08	...	...	...	...
1891	...	1.20	1.19	...	...	...	...	...	...
1895	...	...	...	0.94	...	...	...	...	...
1900	...	...	...	...	1.07	...	...	...	...
1901	...	...	...	...	...	...	...	0.98	...
1910	...	...	1.15	...	1.09	...	...	...	...
1911	...	...	...	...	...	...	...	1.05	...
1920	...	1.30	...	...	1.03	...	...	...	1.59
1921	0.98	...	...	...	...	...	...	0.96	...
1925	...	...	1.08	...	...	...	...	...	...
1930	...	...	...	1.00	...	1.31	1.49	...	...
1931	...	...	...	...	...	...	...	1.01	...
1933	...	...	1.05	...	...	...	...	...	...
1940	...	...	...	...	...	...	1.35	...	...
1941	...	...	...	...	...	1.32	...	1.00	...
1946	...	1.23	1.13	...	...	...	...	...	...
1950	...	...	...	0.99	1.05	...	1.17	...	1.16
1951	0.98	...	...	...	...	...	...	0.98	...

Sources. Singer, op. cit. Tables 1 and 6.

Temporal and international comparisons based on Tables 1 and 5 and on Appendix I suggest the following analytical conclusions.

(1) Under the forces influencing the geographical distribution of population during recent decades there has been a tendency to secure dispersions measured by Pareto co-efficients of value between 0.90 and 1.10. (Allowing for the under estimation of true co-efficients in Column (3) of Table 1, the results of Column (2) and (3) of this table give 15 out of 21 results probably falling within this range, and 19 within a range 0.85 and 1.15, England and Wales being excluded as virtually a duplicate for the United Kingdom.)

(2) For those countries where statistics of population dispersion cover many decades, there has been a marked tendency for the Pareto co-efficients for any one country to change very little in value in recent decades. This is supported by 11 estimates for the United States starting in 1790, 8 for France starting in 1872, 6 for Canada starting in 1901, and 3 for Sweden beginning in 1895. Five estimates for Germany starting in 1891 show a slight trend towards increasing urbanization but this trend appears to have been reversed so that the 1946 Pareto co-efficient is only slightly below that for 1891.[1] Values of the co-efficients for England and Wales in 1921 and 1951 are identical. In the meantime, however, there may have been a similar move-

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[1] The change between 1933 and 1946–50 may not be significant since it could reflect, to an unknown degree, the effects of changed frontiers and refugee movements. (See Notes to Table 1).

TABLE 6

Statistics Used to Derive Certain Coefficients in Table 5

Population of Towns	*No. of Towns*								
	Canada					*Spain*		*Sweden*	
	1901	*1911*	*1921*	*1931*	*1941*	*1930*	*1940*	*1895*	*1930*
Over 200...		637	1461	1615	1644				
,, 500...			764	855	894				
,, 1,000...		396	474	533	584				
,, 2,000...	105					2385	2409	58	102
,, 3,000...		146	181	209	247	1640	1676		
,, 5,000...	56	87	109	138	156	897	949	33	74
,, 10,000...	21	43	55	70	82	320	382	21	39
,, 20,000...	11					111	137	9	17
,, 25,000...	10	14	18	24	34				
,, 30,000...						64	76		
,, 50,000...	5	7	11	14	15	27	38	3	5
,, 100,000...	2	4	6	7	8	11	18	2	3
,, 200,000...	2	2	2	4	4				2
,, 300,000...									
,, 500,000...						2	2		1
Value of Co-efficient ...	0.98	1.05	0.96	1.01	1.00	1.49	1.35	0.94	1.10
Average Error of Estimate :									
No. of Grps.	6	6	6	7	7	6	6	3	4
Av. Error %	8.5	6.6	7.3	5.2	3.6	3.5	6.0	5.9	6.0

Sources. Canada—Canada Year Books. For 1901 the statistics are probably incomplete for towns with populations between 2,000 and 3,000 persons ; similarly for 1911 and 1921 for the group of towns having 200 to 500 persons.

Spain. *Annuario Estadistico de Espana 1943–4.*

Sweden. D. S. Thomas, *Social and Economic Aspects of Swedish Population Movements 1750–1933,* p. 43, and *statistisk arsbok för Sverige, 1951, p. 12.*

In 1895 and 1930 it seems likely, from the evidence of *statistisk arsbok för Sverige* that a number of important smaller urban centres, at that time not incorporated as towns, were omitted from the analysis. By 1950 they were included. The defect is likely to distort particularly the result for 1930.

ment as in Germany. Population growth before 1939 was greater in the larger than in the smaller cities, but since then the positions have been reversed.[1] This conclusion of slight or no long run change in the co-effiients is strongly at odds with the commonly held impression that in modern, western societies larger towns have been persistently growing relatively to the smaller towns.[2]

(3) With the exception of the United States, the nineteenth century experienced a marked change in the degree of urbanization. For the beginning of the century Pareto co-efficients have been obtained, or seem obtainable, of values greater than 1.40. The fall to stable values much nearer unity was completed by the end of the century. It is to this experience that the changes recorded for Japan and Spain should be related. Although there is often a

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[1] G. W. S. Robinson, Op. cit., p. 20.

[2] It must be noted, however, that the conurbation measure of town size is not used in Table 5, except for England and Wales.

close association between an increasing degree of urbanization and the development of secondary and tertiary enterprises, the experience of Sweden shows that growth of the larger agglomerations relatively to the smaller is not necessarily dependent on such development.[1]

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[1] Sweden had built about 8 per cent of her railway trackage and had a non-agrarian population of only some 26 per cent of her total population by 1865. A more likely cause in the changed degree of urbanization was the improvement in urban health (as reflected in the crude birth rate and crude death rate) relatively to rural health (see D. S. Thomas, *Social and Economic Aspects of Swedish Population Movements*, 1750–1933, *p.* 24.

APPENDIX

The Degree of Urbanization before 1871

Statistics for Britain, France, Sweden and the U.S.A. permit the calculation of Pareto co-efficients to add to those already provided by Singer for France and Germany and covering the period before any of these countries were noticeably industralized. The statistics are few and individually of limited accuracy. Yet the results they provide are mutually supporting and, at least, worthy of note.

(1) Britain

Population of Boroughs in Britain (excluding Celtic Districts)	*Number of Boroughs*			
	1086		*1377*	
	Actual	*Estimated*	*Actual*	*Estimated*
Over 400	74	92		
,, 800	41	37		
,, 1,600	16	14.8		
,, 3,200	5	5.8	17	15.8
,, 6,400			5	6
,, 12,800	1	0.9		
,, 25,600			1	0.9
Value of Pareto co-efficient ...		1.34		1.42

Source. J. C. Russell, *British Mediaeval Population*, p. 305. Russell states that the returns for boroughs with under 400 persons, and possibly for those with under 800 persons, are not complete.

(2) France. 18th Century

Population of Towns	*Number of Towns* *Actual*	*Estimated*
Over 10,000	78	86
,, 30,000	17	15
,, 50,000	7	6.5
,, 100,000	2	2.15
Value of Pareto co-efficient ...		1.50

Source: M. Reinhard, *Histoire de la Population Mondiale.*
For 1836 Singer obtains a co-efficient of 1.64.

(3) SWEDEN

Population of Towns	*Number of Towns*			
	1800		*1865*	
	Actual	*Estimated*	*Actual*	*Estimated*
Over 1,000	81*	73	89*	110
„ 2,000	24	26.5	45	49
„ 5,000	6	7	24	17
„ 10,000	3	2.6	7	7.4
„ 20,000			3	3.2
„ 50,000	1		1	1.1
„ 100,000			1	
Value of Pareto Co-efficient ...		1.47		1.20

* A few towns of less than 1,000 population may be included, but in 1865 a number of small agglomerated settlements (probably particularly in the northern counties which had been colonized during the timber boom which starts around 1830 and continues through the middle decades of the century) would not be incorporated as towns. Then net effect for 1865 is an understatement of the number of towns in the two smallest size groups. The value, 1.20, of the Pareto co-efficient may be too low, although not very much so.

Sources. D. S. Thomas, *Social and Economic Aspects of Swedish Population Movements, 1750–1933*, p. 43, and *Statistisk arsbok för Sverige*, 1951, p. 12.

(4) U.S.A.

Population of Towns	*Number of Towns*					
	1790		*1810*		*1830*	
	Actual	*Estimated*	*Actual*	*Estimated*	*Actual*	*Estimated*
Over 2,500 ...	24	24	46	51	90	106
„ 5,000 ...	12	11.3	28	24	56	47.5
„ 10,000 ...	5	5.3	11	11.2	23	22
„ 25,000 ...	2	2	4	4.2	7	7.9
„ 50,000 ...			2	1.9	4	3.6
„ 100,000 ...					1	
„ 200,000 ...					1	
Value of Pareto co-efficient ...		1.06		1.09		1.12
	1850		*1870*		*1880*[1]	
Over 2,500 ...	236	265	663	705	939	975
„ 5,000 ...	147	128	354	328	472	457
„ 10,000 ...	62	62	168	153	223	218
„ 25,000 ...	26	23.5	52	56	77	81
„ 50,000 ...	10	11.3	25	26.3	35	38.2
„ 100,000 ...	6	5.6	14	12.4	20	18.2
„ 200,000 ...						
Value of Pareto co-efficient ...		1.05		1.10		1.07

Source. U.S. Census of Population as quoted in *Historical Statistics of the United States 1789–1945* (U.S. Department of Commerce and Bureau of the Census), p. 29.

[1] Singer's estimate for 1880 is based on statistics differing slightly from the above. There is, however, no significant difference in the value of the Pareto co-efficients derived from each series (1.07 and 1.11).

THE LIMITATIONS OF THE SHORT TERM CONSUMPTION FUNCTION

1. INTRODUCTION

The essential stability of the consumption function has been a basic assumption of econometric essays since the war. There have been differences of opinion about its exact shape both in the short and in the long run, and the most ingenious and interesting post-war studies[1] on applied economics sought to test various hypotheses which would satisfactorily explain the statistical findings. More and more factors were taken into account and increasingly complicated relationships assumed. But the operational usefulness of the concept in model-building, and in predicting likely developments, has not been doubted. Indeed the fact that saving as a ratio of income seemed to remain a constant (as against its rise as expected on the basis of the Keynesian ' Law ') has very much increased the prestige of this ' modified ' consumption function.[2]

The data given in papers presented at a recent Conference[3] in the U.S.A., together with some additional information made available in the Economic Reports of the President, provide the statistical basis for a re-examination of the stability of savings patterns.

It will be shown that there has been a considerable instability in the ratio of personal savings to disposable income in the short period. We shall discuss two possible causes of this instability, neither of which have as yet received as much attention as they deserve. The first is that personal savings may be (inversely) related to expenditure on consumer durables, and that this expenditure is subject to speculative and cyclical influences. The second is that tax changes, by altering the distribution of disposable income, may influence the ratio of personal savings to disposable income.

We shall also consider some of the implications of the changing distribution of gross saving (i.e. including corporate savings and depreciation allowances)—and in particular the growing proportion of depreciation allowances and contractual savings in total gross savings.

2. THE SHORT-RUN INSTABILITY OF SAVINGS

Post-war savings have fluctuated considerably both absolutely and as a percentage of disposable income. The quarterly figures given in Table I show that personal savings have varied from 0.2 to 9.1 per cent of disposable income in the period since the war. In addition they also show an odd cyclical behaviour. It seems clear that the violent inflationary movements of 1946–7, of the third quarter of 1950 and of the first quarter of 1951 were either touched off or severely aggravated by an autonomous or rather exogenous fall in savings. There was the same active cyclical impluse in the sharp rise in savings at the turn of 1948–9 and again in 1951 and 1953–4.

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[1] Cf. e.g. Prof. J. S. Duesenberry, Income, Saving and the Theory of Consumer Behaviour, Cambridge, 1949.

[2] Cf. e.g. L. R. Klein, Economic Fluctuation in the United States, London, 1950. Mr. Kalecki already during the war anticipated a modification of the consumption function and avoided falling into the vulgar Keynesian error about post-war demand. Indeed, though he was too optimistic about the terms of trade of manufacturing countries, he gave an almost uncannily correct answer to the question of the length of the transition period of high demand pressure. (' Employment in the U.K. during and after the Transition Period ', BULLETIN, 1949, p. 265.)

[3] Savings in the Modern Economy. A Symposium ed. W. W. Heller, F. M. Boddy and C. L. Nelson, University of Minnesota, Minneapolis, 1953.

TABLE I

Short-term variations in personal savings and purchases of durable consumer goods.
($ billion and percentages)

		Gross National Product (1)	*Personal Disposable Income* (2)	*Personal Savings* (3)	*Expenditure on Durable Goods* (4)	(3) *as* % *of* (2) (5)	(4) *as* % *of* (2) (6)	(3) + (4) *as* % *of* (2) (7)
1946	I	199.1	150.6	13.0	12.6	8.6	8.4	17.0
	II	206.3	154.8	11.8	15.3	7.6	9.9	17.5
	III	221.1	162.2	9.3	18.2	5.7	11.2	17.0
	IV	224.0	164.2	6.7	19.9	4.1	12.1	16.2
1947	I	224.0	165.4	5.9	20.4	3.6	12.3	15.9
	II	231.7	164.2	0.4	21.2	0.2	12.9	13.2
	III	233.1	171.7	4.1	21.4	2.4	12.5	14.9
	IV	244.3	176.5	5.2	22.6	2.9	12.8	15.8
1948	I	248.2	179.8	5.2	22.1	2.9	12.3	15.2
	II	257.8	187.8	1.03	23.4	5.5	12.5	17.9
	III	263.2	193.0	13.7	23.5	7.1	12.2	19.3
	IV	267.0	192.8	13.0	22.5	6.7	11.7	18.4
1949	I	260.6	188.8	10.1	22.4	5.3	11.9	17.2
	II	258.6	187.3	7.1	23.6	3.8	12.6	16.4
	III	256.9	186.1	5.6	24.6	3.0	13.2	16.2
	IV	256.8	186.9	3.9	25.0	2.1	13.4	15.5
1950	I	265.0	199.0	13.9	26.0	7.0	13.1	20.1
	II	280.3	200.3	10.6	26.8	5.3	13.4	18.7
	III	295.6	208.3	4.4	34.2	2.1	16.4	18.5
	IV	306.3	215.8	16.2	29.8	7.5	13.8	21.3
1951	I	319.6	218.1	7.9	31.2	3.6	14.3	17.9
	II	330.4	223.9	19.1	26.5	8.5	11.8	20.4
	III	332.5	227.2	20.6	25.7	9.1	11.3	20.4
	IV	336.9	230.8	20.0	25.7	8.7	11.1	19.8
1952	I	340.4	228.7	15.0	26.0	6.6	11.4	17.9
	II	345.1	231.7	14.5	27.4	6.3	11.8	18.1
	III	345.3	236.6	19.4	25.1	8.2	10.6	18.8
	IV	361.1	243.0	18.6	28.2	7.7	11.6	19.3
1953	I	363.9	245.0	17.7	30.2	7.2	12.3	19.5
	II	371.4	247.7	17.2	30.7	6.9	12.4	19.3
	III	369.5	249.8	18.8	30.4	7.5	12.2	19.7
	IV	363.5	249.3	19.3	29.1	7.7	11.7	19.4
1954	I	357.8	249.8	20.0	28.2	8.0	11.3	19.3

Source : President's Economic Report, January, 1954. Survey of Current Business Annual Review Number, 1953.

Available statistics are not sufficiently detailed to judge whether this initial impulse came from small business savings or from ' personal ' savings in the narrower sense of the term. Nor is it known whether in the closing period of the decline of 1949 the sharp fall in saving was due to a deterioration of the liquid position of small business through involuntary investment in

TABLE III

The Source of Savings
$ Billions

	1946	*1947*	*1948*	*1949*	*1950*	*1951*	*1952*	*1953*
Gross Private Savings	28.7	25.3	36.4	37.0	42.0	51.8	54.7	55.8[1]
I. Gross Business Savings	15.0	21.1	29.1	30.2	30.3	33.8	37.4	38.9[1]
of which								
Capital Consumption Allowances ...	12.2	14.9	17.6	19.1	21.6	24.2	27.0	29.3
Undistributed Corporate Profits ...	8.1	12.0	13.5	8.8	13.6	10.9	9.5	10.8[2]
II. Personal Savings	12.0	3.9	10.5	6.7	11.3	16.9	16.9	18.1[1]
of which								
Liquid Savings	13.74	6.67	2.99	2.86	1.71	11.81	14.36	12.53[1] [2]
Contractual Savings Total ...	6.97	7.13	7.32	6.05	5.01	8.23	9.10	8.27[1] [2]
Government	3.55	3.49	3.57	2.34	1.08	4.19	4.30	3.64[1] [2]
Private	3.42	3.64	3.75	3.71	3.92	4.05	4.80	4.61[1] [2]
Total Security Purchases	0.86	3.51	3.22	3.03	1.24	2.75	4.81	8.22[1] [2]
Private security purchases ...	0.65	0.84	1.52	0.98	1.34	3.20	3.90	3.41

Source : President's Economic Report, January, 1954.

[1] Provisional.

[2] First three quarters, annual rates.

stocks or to a genuine contra-cyclical decrease in personal savings in the narrow sense.

Nevertheless, there is little doubt that variations of this magnitude and suddenness cannot be ' explained ' even by the most complicated mechanical models. We have to admit (and this is something that practitioners of econometrics are unwilling to do) that autonomous changes in savings may play an important part in shaping the pattern of the cycle.

One element in the short period instability of savings ratio was probably the fluctuation in ' household investment,' i.e., *in purchases of consumers' durables*. As can be seen from Table I, expenditure on consumers' durables tends to be inversely related to personal savings. Financial provisions and transactions in connection with these purchases have become increasingly important. Their share in the national income has risen from 10 per cent before the war to nearer 15 per cent now (a temporary fall in 1951–2 was due to Goverment restrictions). At that level they are roughly equal to net private savings, (i.e. personal saving plus undistributed profits) and some 50 per cent higher than personal saving. A slight flunctuation in these purchases may thus be associated with a sharper proportionate change in personal savings. There can be no doubt that the timing of expenditure is sharply influenced by price expectations (and also by any relative saturation of markets); factors which have received little attention by model builders, presumably because of their elusive character. It should also be observed that the sample questionnaire type of enquiry has yielded little trustworthy evidence on the future intentions of consumers.[1] The element of autonomous impulse is too strong in the short run.[2]

It is this factor which influences the fluctuation in liquid assets, which in turn seems to have accounted for a larger part of the sharp fluctuations not merely in personal but also in total savings. An extreme example of such changes is given in Table II. which shows details of personal savings in 1950 and 1951.

There is a further factor which deserves more attention. The heterodox behaviour of personal savings at the turn of 1953–4—its increase on a fall of income—suggests that the *impact of taxation on savings* was important. It has recently been fashionable to argue that little if any increase in effective demand could be achieved by taxing high-saving groups in order to finance additional expenditure.[3] Recent developments do not support this view. Indeed the counter-cyclical increase in savings seems to justify the critics of the fiscal policy of the U.S. Government. Though there was a net decrease in total taxation, this decrease had little if any expansionist effect

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[1] Cf. e.g. the survey of autumn 1953 predicting an increase in durable purchases.

[2] The importance of changes in the purchases of durable goods as an autonomous factor in the causation of business fluctuations is also brought out in an analysis provided by G. Garvey of the various types of savings through time.—*Savings in the Modern Economy*, op. cit. pp. 325–362.

[3] Cf. e.g. R. A. Musgrave and M. S. Painter. The impact of alternative tax structures on personal consumption and saving. *Quarterly Journal of Economics*, August 1948, pp. 475–499.

TABLE II

Composition of Savings of Individuals for 1950 and 1951
(in Billions of Dollars)

Savings	*Annual Total*			
	1950		*1951*	
Liquid savings[1]	7.2		15.2	
Currency and bank deposits		4.2		5.8
Currency		0.0		0.7
Demand		3.7		2.9
Time		0.5		2.1
Savings and loan associations		1.5		2.1
Private insurance		3.9		4.2
Securities		0.8		3.5
U.S. government		—0.8		—0.5
Other		1.7		4.1
Less : Increase in consumer debt		3.2		0.4
Increase in equity in non-business real property	2.9		2.5	
Non-farm dwellings[2]		12.6		11.5
Less : Increase in mortgage debt[3]		7.0		6.0
Less : Depreciation		2.7		3.0
Increase in equity in unincorporated business (non-farm)	—0.8		0.5	
Increase in inventories		1.2		0.3
New construction and producers' durable equipment		6.3		6.0
Less : Depreciation		3.0		3.3
Less : Increase in debt[3]		5.3		2.5
Increase in equity in farm enterprises	0.3		0.5	
Increase in inventories		0.8		1.0
New construction and producers' durable equipment		4.7		5.0
Less : Depreciation		4.1		4.5
Less : Increase in debt[3]		1.1		1.0
Total	9.6		18.7	

Source : Savings in the Modern Economy, p. 100.

[1] This total includes S.E.C. liquid savings other than government insurance, Armed Forces Leave Bonds, and changes in mortgage debt, not shown separately in this Table.

[2] Includes construction by non-profit institutions.

[3] Includes increases in mortgage and other debt to corporations and other financial intermediaries.

on demand : the increase in social security taxes falling mainly on the poorer sections of the community cut down consumption while the (larger) tax-concessions, as they mainly benefited the better-to-do, resulted more in an increase in savings. The cuts of personal taxation now under discussion (mainly benefiting unearned incomes through a dividend relief) are not unlikely to have the same effect.

3. SOME NOTES ON THE CHANGING COMPOSITION OF SAVINGS

The assumption that the importance of various types of 'savings' has not changed since before the war has not been borne out by facts. Their relative share is subject to violent short term fluctuations. Perhaps the most significant development for the future has been the increase of '*capital consumption allowances*' as a share of total gross savings from 33.5 to 40.8 per cent between 1946 and 1952[1].

In an expanding economy the system of flat rate depreciation charges produces resources far more than sufficient for their ostensible purpose :[2]

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[1] It must have increased further since.

[2] Cf. Prof. Domar, Depreciation, replacement and growth. *Economic Journal,* March 1953, p. 1.

part of the depreciation charges can be used for expanding (' widening ') or for modernising (' deepening ') capital equipment. This has two consequences tending to offset each other. Firstly, total savings will be less subject to cyclical fluctuations. Secondly the propensity to invest is likely to rise. The first effect will, ceteris paribus, be destabilising in a slump. Total savings will not fall as far or as fast as they would do if depreciation provisions were a smaller proportion of the total. In particular, this portion of (gross) savings will not disappear as easily as undistributed profits, the other form of business saving. Managements may be prepared to cut into undistributed profits to maintain dividends, but will resist strongly any incursion into their depreciation provisions. As these provisions are, moreover, tax-free, they are insulated from the anticyclical fall in corporation taxes as (net) profits fall.

On the other hand the stability of these ' hidden ' savings enables managements to pursue aggressive policies of modernisation which would not be as easily possible if new, outside, capital had to be solicited on which profit or interest had to be earned.[1] Whether this second expansionist effect is likely to outweigh the first rather deflationary influence cannot be decided a priori. It seems probable that the maintenance of investment in 1954 in the teeth of the sharp decline of gross profits is not unconnected with this greater willingness to use internal funds. In this sense (and this sense only) it is true to say that corporate savings ' create ' investments i.e. raise the investment schedule by doing away with borrowers risk.[2]

The increase in the importance of *contractual saving* which received so much attention can be exaggerated. What seems to have happened (cf. Table III) is that the Government social security funds have substantially expanded in the U.S. and are (at relatively full employment level) increasing more rapidly than private contractual savings. The changes in these Government sponsored ' contractual ' savings are sharp and counter-cyclical because of the operation of relief payments, but they are insufficient to offset the changes in liquid savings. Private contractual savings seem nearer to a fifth than a quarter of total (average) personal savings ; if house-purchases are included the proportion is, of course, much higher. But repayment of mortgages can be suspended or met by new borrowing. Thus this inclusion blurs the essential distinction between contractual and ' voluntary ' saving, and is therefore not very helpful.

Two conclusions might be put forward rather tentatively (1) that autonomous factors affecting personal saving may be too strong to permit any ' scientific ' short run prediction of consumers' expenditure based on the ' consumption function ', no matter how great the sophistication of econometric models, and (2) that because the different forms of savings react in different ways to cyclical and/or non-cyclical developments, changes in the composition of savings have a considerable importance for economic analysis. These conclusions will unfortunately not discourage continued model building. With sufficient ingenuity patterns can always be produced to explain—the last depression or boom.

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[1] Undistributed profits of course can equally be utilised for this task, though shareholders in the longer run are more likely to question managements if no *increase* in (as against maintenance of existing) profits can be vouchsafed by their re-investment.

[2] An increase in the share of automatically offset ' savings ' e.g. house-building has the same effect.

Tribute should be paid, however, to the effort and ingenuity with which the authorities, especially the Bureau of Commerce and the Federal Reserve Board and various universities and research organisations, tried to open up and assemble new statistical material over this vital field. Both direct compilation and the questionnaire type of surveys have been pushed far beyond anything hitherto attempted. Even if it should prove impossible to use this material mechanically I should not like to be taken as disparaging the effort or its results. They will give a much securer basis for economic judgment even if in these judgments intuition and experience must play a prominent, if not predominant, part.

T. Balogh.